SUOMEN METSÄTIETEELLINEN SEURA — FINSKA FORSTSAMFUNDET

ACTA
FORESTALIA FENNICA

54.

ARBEITEN DER
FORSTWISSENSCHAFTLICHEN
GESELLSCHAFT
IN SUOMI

PUBLICATIONS OF THE
SOCIETY OF FORESTRY
IN SUOMI

PUBLICATION DE LA
SOCIÉTÉ FORESTIÈRE
DE SUOMI

HELSINKI 1949

Suomen Metsätieteellisen Seuran julkaisusarjat:

ACTA FORESTALIA FENNICA. Sisältää Suomen metsätaloutta ja sen perusteita käsitteleviä tieteellisiä tutkimuksia. Ilmestyy epäsäännöllisin väliajoin niteinä, joista kukin yleensä käsittää useampia tutkimuksia.

SILVA FENNICA. Sisältää Suomen metsätaloutta käsitteleviä kirjoitelmia ja pienehköjä tutkimuksia. Ilmestyy epäsäännöllisin väliajoin. Kukin kirjoitus muodostaa yleensä oman niteen.

COMMENTATIONES FORESTALES. Sisältää muiden maiden kuin Suomen metsätaloutta ja siihen liittyviä aihepiirejä käsitteleviä tutkimuksia ja muita kirjoituksia. Ilmestyy epäsäännöllisin väliajoin. Kukin nide sisältää yleensä vain yhden tutkimuksen.

Finska Forstsamfundets publikationsserier:

ACTA FORESTALIA FENNICA. Innehåller vetenskapliga undersökningar rörande skogshushållningen i Finland och dess grunder. Banden, vilka icke utkomma periodiskt, omfatta i allmänhet flere avhandlingar.

SILVA FENNICA. Omfattar uppsatser och mindre undersökningar rörande skogshushållningen i Finland. Utkommer icke periodiskt; varje uppsats som skilt band.

COMMENTATIONES FORESTALES. Innehåller undersökningar och andra uppsatser rörande skogshushållningen och i samband med denna stående frågor utom Finland. Utkommer icke periodiskt. I allmänhet ingår i varje band endast en avhandling.

SUOMEN METSÄTIETEELLINEN SEURA — FINSKA FORSTSAMFUNDET

ACTA FORESTALIA FENNICA

54.

ARBEITEN DER
FORSTWISSENSCHAFTLICHEN GESELLSCHAFT
IN SUOMI

PUBLICATIONS OF THE
SOCIETY OF FORESTRY
IN SUOMI

PUBLICATION DE LA
SOCIÉTÉ FORESTIÈRE
DE SUOMI

HELSINKI 1949

Acta Forestalia Fennica 54.

HELSINKI 1949
SUOMALAISEN KIRJALLISUUDEN SEURAN KIRJAPAINON OY

TRADE IN FOREST PRODUCTS BETWEEN FINLAND AND THE UNITED STATES OF AMERICA

L. RUNEBERG

HELSINKI 1946

HELSINKI 1946
SUOMALAISEN KIRJALLISUUDEN SEURAN KIRJAPAINON OY.

Preface.

I have been inspired to this dissertation by the scholarship that the University of Idaho and the For Finland Inc. placed at the disposal of the University of Helsinki in 1940. My best thanks to them for all the kindness shown and assistance given me during the period of my studies in the USA, 1940—41. Especial thanks are due to the Dean of the School of Forestry of the University of Idaho, Professor D. S. Jeffers. I am further in debt of gratitude to the Society of Forestry in Finland and to the Nylands Nation for the scholarships that made possible my study trip in Sweden during the spring term of 1945. I wish, moreover, to express my appreciation for the kindness shown me in including this dissertation in the serial publications of the Society of Forestry, the Acta Forestalia Fennica. Thanks also to the Finnish Foreign Trade Association for assistance in defraying the costs of printing.

My especial thanks to my teacher, Professor E. Saari for his assistance and the never-failing patience he showed me during the time I was engaged on this task.

I particularly wish also to thank Minister Hj. J. Procopé for the interest he has taken in my work and for his valuable advice.

For their amiable assistance in gathering the material to this thesis I am bound in gratitude to all of the associations of the forest industries, here as well as in the USA and in Sweden, that placed their archives at my disposal.

For their assistance in translation and correction of this dissertation I am obliged to S. Törnudd and G. Sprengling (Sc. D.).

Finally I wish to thank all those whom I have had occasion to trouble in connection with this work for their advice and valuable assistance.

L. Runeberg.

Contents.

Introduction.

The origin of Finnish-American relations is of an early date. It is a known historical fact that there were also Finns amongst the emigrants, that more than 300 years ago, founded the first colonies on American soil. This happened, if we wish to be exact, in the spring of 1638, at which time a ship from the Kingdom of Sweden arrived in Delaware Bay.[1] The settlements thus founded gradually spread to the regions at present embracing Delaware, New-Jersey and Pennsylvania. Vuorinen writes as follows concerning this event:[2] »Thus Finns and Americans have a common ground in American history, the importance of which is very great. Three centuries of this kind of common historical heritage have furnished much of the foundation upon which American-Finnish relations have rested in the past. Reinforced by rapidly growing economic and other contacts, this heritage promises to become even more significant in the realization of the plans of today and the objectives of tomorrow.»

The, from a Finnish point of view, very extensive emigration to the USA in the nineteenth century must also be remembered. The Finnish emigrants often delayed their application for American citizenship by ten to twenty years and, generally speaking, retained their national characteristics for a very long time. In spite of the fact that these emigrants rarely obtained any direct influence in circles engaged in foreign trade, it cannot be denied that the historical background has a considerable effect on trade between the two countries. A lively exchange of goods is easier to attain between peoples who have already been in cultural contact with one another for a long time.[3]

However, the Finnish-American relations before 1918 were naturally of quite a different character than during the time of Finland's independence. The share of USA trade in the economic development of Finland has been very considerable during this latter period. Only England, and at times Germany and Sweden, have occupied a more dominating position in the Finnish foreign trade. The position of the USA as Finland's foremost creditor is also generally known.

---

[1] Compare Voionmaa 1938 p. 57 and Vuorinen 1938 p. 61.

[2] Vuorinen 1938 p. 63.

[3] Compare with the emigrants from Sweden to the USA, who often became businessmen with influence in export and import circles.

Since the question of reestablishing commercial relations between the different countries of the world is actual at present, the post-war orientation of Finland has also become a question of the day. Fine writes:[1] »The pattern of postwar international trade is not likely to duplicate prewar experience», and this has a particular bearing on the future trade of Finland. Before the first World War Finland was, as we know, dependent on Russia even with respect to her trade policy.[2] After 1918 a completely new orientation took place, and Finland, in spite of great difficulties, succeeded in working up good connections with transoceanic markets. At present, Finland evidently has to face the problem as to what extent a return to her dependence on the Russian market may be a natural and desirable development. Some circles consider the USSR as the natural economic outlet of Finland and, consequently, think it abnormal, if Finland looks at all to transoceanic countries for the sale of such of its articles of export as the USSR may be able to absorb.[3] Undoubtedly the economic life of Finland during a reasonably long period in the near future will be affected by the coöperation with the Soviet Union. The production of goods for the large, neighbouring nation has increased enormously on account of the war indemnity deliveries. We may, moreover, reckon with an extensive import.

Particularly the Finnish forest industries have to face a very serious problem: Must the position which Finland, by great sacrifice, has acquired on the American market be considered lost and the centre of gravity transferred to the USSR? This question is of such importance, not only for the countries mentioned but also for the entire international trade in products of the pulp and paper industry, that there seems to be every reason for a detailed scrutiny of the matter. The problem seems to imply two analyses, viz.:

a) Is the importation of products of the forest industries to the USA a natural phenomenon to be counted with during a reasonably near future, and has Finland the possibility of taking part in supplying this eventual need of imports to the USA, and if so to what extent?

b) Is it possible for the USSR to keep her own forest industries at such level that no imports will be needed, and may we assume that she will do so?

A positive decision on the latter part of the problem requires thorough scrutiny of specifically Russian problems. The USSR plan for industrialization may here be touched upon only in passing. It is certain that the new economic structure of Soviet Russia will not be the same as that of the empire, in which Finland's businessmen gained so many easily acquired connections before 1918. Even a glance at the development of many branches of industry during the five years' plan of the period between the World Wars shows a really astonishing increase of capacity in a comparatively short time. Thus 1 500 new industrial enterprises were added during

[1] Fine 1944 p. 158. Compare also Neubrech 1943 p. 6.
[2] Compare Lundell 1930 p. 7.
[3] Compare Ölander 1945 p. 29 and Tommila 1945 p. 17.

the first five years' plan in 1928—32, 2 100 during 1932—38, and 2 900 in 1938—40.[1] The war has naturally destroyed much in this respect, but the situation, nevertheless, cannot be compared with that of 1921—23. It is particularly to be noted that the USSR at present has a staff of industrial leaders at her disposal as well as economic and administrative experience. In 1921 these elements were completely missing, and it is equally certain that the program for reconstruction and expansion thus possesses every possibility of a rapid realization. Since the USSR possibly may count upon economic assistance from England as well as from the USA also after the war,[2] and since at the same time she ought to be able to reduce her military expenditures considerably, there do not seem to be any serious obstacles to a continued, rapid industrialization. Certain branches of industry will be particularly favoured hereby, and it is certain that the forest industries will be amongst them. It would be paradoxical if the USSR, possessing the world's greatest forest resources, should remain an importer of products of the forest industries. Nor do the leaders of the Soviet Union seem to calculate with such a possibility, judging by the indemnities to be paid according to the armistice agreement concluded between Finland and the Soviet Union in 1944, in which the share of Finland's wood products has been calculated according to an annually sinking scale, while the deliveries of machinery embrace a number of complete pulp and plywood factories.[3] A reorganization of the exports of the Finnish forest industries on a large scale in such a manner that Finland, similarly to the period before the first World War, would chiefly depend on the USSR market, can thus under no circumstances be recommended until a thorough investigation into this question has been made.

As to the USA, the long suspension of business connections, caused by the World War just ended, has without doubt been accompanied by profound changes. During the war the American continent was more and more thrown upon its own resources. Among other things the imports of products of the forest industries from Europe ceased; these had amounted to an average of one and a half million tons a year in the 1930:ies of mechanical and chemical pulp alone. During five years' time the USA were reduced to imports from Canada and to their own forest resources. This change of the trade-political orientation during such a long time naturally has already left a deep mark on American trade. Domestic industry there tried to adapt itself to the new situation. Insofar as the assets of raw materials allowed, the loss of the imports from Europe was made good by new constructions and enlargements. Many paper mills which previously had used Scandinavian pulp as raw material turned during the war to the use of domestic or Canadian pulp,

[1] Compare Lorwin 1943 p. 276 and Yugow 1942 p. 16.
[2] Compare The Anglo-Soviet Agreement of June 11th 1942 article 6: »the high contracting parties agree to render one another all possible economic assistance after the war» and as to the general principle of the American Lend-Lease: »to expand trade and employment by appropriate international and domestic measures.»
[3] Tommila 1945 p. 13.

having gradually found out their qualities by experiment. In the Scandinavian countries there has been wide discussion as to whether the American market for products of the forest industries has been lost for ever on this account. Even the more optimistic speak of years of hard work ahead before the pre-war position can be regained. SPJ wrote about this:[1] »Med den vändning sakerna tagit i Amerika är det fara värt, att den marknad, som varit av så utomordentlig betydelse för utvecklingen av den moderna massaindustrien i Sverige, Finland och Norge för framtiden måste betraktas såsom — om icke helt förlorad — så dock reducerad till en relativt obetydlig del av vad den varit under de sista decennierna.» (Considering the turn things have taken in America, there is imminent danger that the market that has been of such extraordinary importance for the development of a modern pulp industry in Sweden, Finland, and Norway must in future be considered as — if not entirely lost — at any rate reduced to a comparatively insignificant moiety of what it was during the past decades.) North America possesses, without doubt, to a rare extent the resources for establishing a closed economic unit, but this is no indication that such a unit would be the most favourable one under all circumstances. That which in times of war is an imperative necessity can rarely be applied during conditions of peace. No economist denies that every country possesses better natural resources for the production of some special product than other countries, that is to say that the smallest possible quantity of work and capital would be required for the manufacture of the product. If one accepts this line of thought, which constitutes one of the cornerstones of modern economics, the advantages of foreign trade must also logically be admitted. Or if we quote Ohlin:[2] »Undersökningen av den internationella arbetsfördelningens och utrikeshandelns verkningar mynnar således ut i slutsatsen att de minska olägenheterna av produktionsfaktorernas bristande delbarhet och rörlighet och på så sätt öka produktionens effektivitet.» (Investigation of the international division of labour and the functions of foreign trade lead us, then, to the conclusion that their effect is to ameliorate the disadvantages implied in the lack of divisibility and mobility of production factors and thus increase production efficiency.) A number of different factors — as for instance costs of transport, resources of raw materials, differences in the levels of interest and wages, etc. — influence in their turn the efficiency of production. A study of the trade between two countries thus necessitates thorough scrutiny of a number of economic factors.

Our research concerning the Finnish-American trade in forest products and its

[1] U.S.A. på väg till självförsörjning, 1941 p. 174. Compare also E.S. 1941 p. 271: »emedan de nya vägar, som den amerikanska handeln nu söker sig säkerligen åtminstone delvis komma att bli bestående.» (inasmuch as the new routes American trade now seeks will surely prove permanent at least in part.)

[2] Ohlin 1934 p. 22. Compare also Beveridge 1944 p. 215: »so that all may benefit to the largest possible extent from the saving of toil and effort which can be achieved through the international division of labour.»

future possibilities will thus first dwell upon a market survey and an analysis of the development of exports during the time between the World Wars. Since more than 90 per cent of Finland's exports to the USA always have consisted in products of the forest industries, a rather superficial treatment of other articles of exports ought to suffice. In order to further in some degree limit the extensive material, the market survey and the analysis of Finland's previous exports to the USA have been chiefly concentrated on the 1930:ies only. The great depression of 1929—32 brought such overwhelming changes in economic life that international trade was directed into entirely new paths.[1] Bilateral commercial intercourse in the form of currency restrictions, exchanges of goods (compensation trade), contingents etc. were the new tides in trade policy that obtained a footing in the world and dominated all the 1930:ies. The fact that this development continued even when an evident improvement in the tide of the market had occurred is a typical example of how difficult it is to improve upon a system that has once been distorted. Since no immediate return to free trade is possible and the post-war period consequently, at all events to begin with, will be dominated by the trade policy of the 1930:ies, it seems to the writer that there is every reason for a more detailed analysis of this period, while the 1920:ies are of mere historical interest. A closer scrutiny of the economic result in relation to other markets will be made in connection with the analysis.

The sales organization on the American market claims a chapter by itself, and we shall then dwell on the agency question and the American point-of-view in regard to the international activity for mutual support in the forest industries through trusts. There is also reason for a summary on the technical side of sales, as well as of total costs. We shall only touch on questions of freight and transports in pre-war times, since, under any circumstances, Finland will be dependent on foreign tonnage for a long time to come in consequence of the loss of her commercial fleet.

A summary of the commercial and tariff policies between USA and Finland is a material part of our task. In accomplishing this we shall first deal with the tariff agreement of 1936 and its influence on the export possibilities of the forest industries until the outbreak of the war.

Then we shall deal with the American pulp and paper industry and its development during the war. As to the USA resources of raw materials, the possibilities of objectively judging the timber balance have increased since the new national forest survey has now, in the main, been concluded.

The following chapter will embrace an analysis of the future increase in demand for products of the pulp and paper industry. Here we deal in the first place with

[1] Compare Voionmaa 1939 p. 218: »Kansainvälisen kauppapolitiikan kehityksessä sodan jälkeen on kaksi selvästi erottuvaa ajanjaksoa, joiden taitekohtana on maailman talouspula ja finanssikriisi.» (The development of international trade policy after the (first world) war shows two, clearly differentiated periods, separated by the world financial crisis and economic depression.)

American but to a certain extent also with European conditions. Having inquired into the Canadian pulp and paper industry and its possibilities for development and touched upon the Swedish resources of raw materials, we shall discuss some more general post-war features. Having furthermore considered in detail the future possibilities of the most important articles for export we shall turn to a summary of the material which we have treated.

Since the choice of material presupposes an analysis of enormous extent, a detailed treatment at such length as might be desired has not always been possible. In some instances reference only has been made to literature on the subject. On account of the past slight importance of exports of plywood and other woodgoods to the USA, we consider a detailed treatment of these branches of industry as of minor importance. As to USA exports to Finland, we can confine ourselves to the statement that Finland will always be in great need of American articles of consumption. So far as Finland's exports to the USA can be maintained, there will thus be no difficulties concerning the claim for reciprocity, which fact will always be valid to a certain degree in regard to the trade between two countries.

Market survey of Finland's exports to the USA in the 1920:ies.

Finland's trade with the USA dates principally from the time after her War of Independence. In 1919 the United States of America appear for the first time in Finland's trade statistics as buyers as well as sellers. The boats carrying foodstuffs that the American Government sent in order to alleviate the critical situation in Finland, generally loaded cellulose or newsprint for the return journey. The first cargo of Finnish pulp thus arrived in New York in May 1919, and was sold to the paper mills in small sample lots.[1] From this time on products of the Finnish forest industries began to appear on the American market. Finland's orientation on trade policies at that time allowed the tendency toward trade with countries outside Europe to become permanent, and the USA market began to play a significant part in Finland's foreign trade. The principal direction of the Finnish exports until the 1930:ies is shown by the following table comprising the eight most important countries.[2]

Table 1. Exports according to sales countries in per cent of total export values.

Vienti myyntimaittain % koko vientiarvosta.

Total exports million marks / *Koko vienti milj. mk*	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929
	226.8	880.4	2 926.4	3 389.4	4 467.6	4 392.5	4 970.6	5 573.5	5 636.5	6 324.4	6 245.3	6 429.7
England — *Englanti*	6.5 **4**	42.9 **1**	43.0 **1**	33.7 **1**	37.0 **1**	41.3 **1**	40.3 **1**	37.0 **1**	38.4 **1**	40.1 **1**	35.4 **1**	38.0 **1**
Germany — *Saksa* . .	43.4 **1**	9.3 **2**	4.8 **8**	11.0 **3**	8.7 **3**	6.2 **6**	9.1 **3**	13.4 **2**	12.7 **2**	15.8 **2**	15.8 **2**	14.4 **2**
USA — *USA*	—	2.4 **8**	6.6 **5**	8.1 **4**	6.5 **7**	7.8 **4**	6.1 **6**	5.3 **5**	6.5 **5**	5.4 **5**	6.5 **6**	7.0 **4**
Sweden — *Ruotsi* . .	11.7 **2**	8.0 **5**	8.2 **3**	12.0 **2**	6.5 **6**	5.8 **7**	5.0 **7**	4.3 **7**	3.9 **7**	3.1 **7**	2.2 **8**	2.0 **8**
Holland — *Hollanti* .	4.6 **5**	9.0 **3**	8.5 **2**	8.0 **5**	8.3 **4**	8.5 **3**	9.3 **2**	9.2 **3**	10.3 **3**	9.0 **3**	8.2 **3**	6.9 **5**
France — *Ranska* . .	0.0 **6**	8.1 **4**	7.9 **4**	6.4 **6**	10.3 **2**	9.3 **2**	8.1 **4**	5.0 **6**	7.2 **4**	4.7 **6**	6.8 **5**	6.5 **6**
Denmark — *Tanska*.	11.0 **3**	5.5 **6**	5.4 **6**	4.9 **8**	4.8 **8**	5.0 **8**	3.9 **8**	3.2 **8**	2.5 **8**	2.3 **8**	2.3 **7**	2.3 **7**
Belgium — *Belgia* . .	—	3.4 **7**	4.8 **7**	5.5 **7**	7.0 **5**	7.3 **5**	6.4 **5**	6.5 **4**	5.3 **6**	6.0 **4**	7.5 **4**	7.9 **3**
Total — *Yhteensä* . .	77.2	86.6	89.2	89.6	89.1	91.2	88.2	83.9	86.8	86.4	84.7	85.0
Other countries — *Muut maat*	12.8	11.4	10.8	10.4	10.9	8.8	11.8	16.1	13.2	13.6	15.3	15.0

[1] Suomen Selluloosayhdistys, 1931 p. 18. Compare also Lundell 1930 p. 10 and 16.

[2] Fogelholm 1939 p. 428.

As we see, the USA, in eighth place in 1919, had already risen to fifth place by 1920, keeping this position, with slight yearly variations, during all of the 1920:ies. Exports to the USA accounted for from 5.3 to 8.1 per cent of the total Finnish exports, during the said decade, on the average 6.6 per cent.

As to kind, the Finnish exports to the USA consisted almost exclusively of mechanical and chemical pulp and newsprint. Some lumber was also exported to the USA, but never cut any great figure in export values. The following table probably throws the best light on the inner structure of exports during this period.[1]

Table 2. Finland's exports to the USA in 1919—29.
Suomen vienti USA:han 1919—29.
(in 1000s of tons and millions of marks) — *(1000 tonnia ja milj. mk)*

	1919		1920		1921		1922	
	tons *tonnia*	marks *mk*	tons *tonnia*	marks *mk*	tons *tonnia*	marks *mk*	tons *tonnia*	marks *mk*
Woodgoods — *Puutavaraa*	—	—	—	0.2	—	0.8	—	0.5
Mechanical pulp — *Puuhioketta*	—	—	19.8	33.4	9.6	12.5	4.9	9.8
Sulphite pulp — *Sulfiittiselluloosaa*	19.1	18.7	17.1	66.1	30.6	94.6	31.6	81.2
Sulphate pulp — *Sulfaattiselluloosaa*	—	—	11.0	43.7	15.3	38.8	24.0	64.4
Newsprint — *Sanomalehtipaperia*	—	—	7.2	34.0	19.5	90.9	24.0	80.4
Other paper — *Muuta paperia*	0.2	0.3	4.6	10.4	2.5	4.8	6.2	24.7
	19.3	19.0	59.7	187.8	77.5	242.4	90.7	261.0

	1923		1924		1925		1926	
Woodgoods — *Puutavaraa*	—	1.1	—	1.8	—	1.8	—	1.0
Mechanical pulp — *Puuhioketta*	7.4	11.2	13.6	15.8	2.4	3.3	1.9	2.5
Sulphite pulp — *Sulfiittiselluloosaa*	50.7	125.2	44.7	90.6	54.9	119.9	65.5	145.9
Sulphate pulp — *Sulfaattiselluloosaa*	23.0	54.4	23.0	47.1	23.8	53.3	24.9	56.4
Newsprint — *Sanomalehtipaperia*	28.7	86.4	27.6	79.7	19.0	53.5	30.8	85.0
Other paper — *Muuta paperia*	7.3	24.3	6.1	18.6	6.6	24.0	7.6	25.1
	117.1	302.6	115.0	253.6	106.7	255.8	130.7	315.9

	1927		1928		1929	
Woodgoods — *Puutavaraa*	—	1.9	—	3.8	—	2.5
Mechanical pulp — *Puuhioketta*	7.5	7.7	8.8	8.2	10.5	10.7
Sulphite pulp — *Sulfiittiselluloosaa*	68.6	147.0	85.7	162.7	111.8	213.3
Sulphate pulp — *Sulfaattiselluloosaa*	25.8	56.7	36.5	76.5	34.8	72.1
Newsprint — *Sanomalehtipaperia*	25.2	66.8	39.1	94.5	30.6	68.1
Other paper — *Muuta paperia*	6.2	18.0	5.1	14.8	5.7	16.3
	133.3	298.1	175.2	360.5	193.4	383.0

Total exports of products of the forest industries thus increased from 19 000 tons in 1919 to 193 000 in 1929. The increase in value was still more considerable, viz. from 19 million Finnmarks to 383 million marks. The sulphite pulp, which in 1919 amounted to nearly 100 per cent of the total exports, remained also during all of the 1930:ies the chief article of export as regards value as well as weight. The export

[1] According to Finland's official annual statistical publication I A Utrikeshandel. All the ton values given in this treatise are metric tons unless otherwise specified. Compare p. 151.

of mechanical pulp showed a very promising start in 1920, but afterwards decreased and amounted to only 1 900 tons in 1926, while it rose again in 1929 to 11 100 tons. The exports of newsprint which began in earnest in 1921 amounted to 31 000 tons in 1929. The exports of woodgoods, concerning which great hopes had been entertained, never gained any greater importance.[1] The largest export value shown by this group of articles occurred in 1928 and amounted to 3.8 million marks. On account of reasons touched upon in the introduction it does not seem appropriate to enter more in detail into the exports of the 1920:ies. The short survey that has been given here is only meant as a background to the development during the 1930:ies.

Market survey of Finland's exports to the USA in the 1930:ies.

The great crisis on the Wall Street stock exchange on October 24th 1929 had not been able to bring the world to its senses in view of what was to come. Within wide circles in the USA it was at first believed to be only a natural reaction against the exaggerated »hausse» on the exchange. Nevertheless, at the commencement of the 1930:ies it began to be clear that the world was facing a bad economic crisis, the duration and revolutionizing consequences of which, however, nobody as yet suspected. The question concerning the deeper underlying causes of the origin of the depression falls outside the bounds of our research, and the primary causes in their turn are so generally known that a recapitulation here seems unnecessary.[2] It must be remembered that the original causes of the crisis were of a purely economic nature, while the later development was dominated by political interference.

The economic depression soon strongly influenced world trade. The following table of the foreign trade indexes of seven important countries gives an idea of the situation.[3]

Table 3. Monetary value of exports and imports stated in per cent of the 1929 values.
Viennin ja tuonnin raha-arvo prosentteina vuoden 1929 arvoista.

	Import — *Tuonti*		Export — *Vienti*	
	1930	1931	1930	1931
USA[4] — *USA*	70	48	73	46
Canada[4] — *Kanada*	78	48	75	50
Germany — *Saksa*	77	50	90	73
France — *Ranska*	90	72	85	61
Italy — *Italia*	80	54	79	66
Switzerland — *Sveitsi*	94	82	84	64
England — *Englanti*	86	72	78	53

[1] The reasons for this will be touched upon below. See p. 54.
[2] As to more detailed information see Ohlin 1931.
[3] Maailman kauppa v. 1931, 1932 p. 76. Compare also Unitas 1933 p. 10 concerning the decrease in volume of the world trade.
[4] Transit-trade included.

These countries represented together more than 50 per cent of the foreign trade of the whole world. The enormous decrease in trade values shown by the above figures was due in great part to the drop in prices, but simultaneously a considerable decrease in volume also took place. The USA was struck the hardest. Her foreign trade in 1931 had declined to less than the half of that in 1929. It is evident that this unfavourable development caused great difficulties in respect to Finland's exports to the USA. Nonetheless, the pulp and paper industry, generally speaking, seems to have come through better than many another branch of industry during 1930. Thus in the USA it took until March of the said year, before the production of the pulp and paper industry dipped under the level of 1929. SPJ wrote concerning this point, basing its views on information obtained from an investigation made by the American Paper and Pulp Association, as follows:[1] »I de flesta fall har under hela året rått en tämligen god jämvikt mellan produktion och konsumtion, och lagren av papper ha ej visat sådana kraftiga ökningar som man sett i en del andra näringar.» (In most cases a fairly good balance between production and consumption has obtained all through the year, and stocks of paper have not shown the sharp rise apparent in some other branches of industry.)

The consumption of newsprint, however, diminished by about six per cent, which was a very serious check, taking into consideration the fact that the increase in consumption during the last ten years had amounted to an average annual nine per cent.[2]

The head of the Finnish Cellulose Association, Mr. Walter Gräsbeck, returning at the end of May 1930 from a longer journey in the USA, also took a rather gloomy view of the situation. In an interview, he said among other things:[3] »En nyinförd kutym har dessutom försvårat cellulosaaffärerna, nämligen den att knappast något nytt avslut kan göras utan att tidigare gällande kontrakt och villkor omtummas på ett för oss hittills okänt sätt.» (A newly-introduced custom has additionally hampered deals in pulp and paper; it is at present almost impossible to close a new deal without haggling over previous contracts and specifications in a way heretofore unknown to us.)

The fact was that prices had to be further reduced in order to keep the Finnish machines occupied. In the beginning of 1930, quotations in the USA were as follows:[4]

Bleached sulphite pulp	$ 3.40—3.60
Strong sulphite pulp	2.70—2.90
Strong sulphate pulp	2.40—2.50
Newsprint	62.—

[1] Förenta Staternas pappers- och massaindustri 1930, 1931 p. 50.

[2] Finska Pappersbruksföreningen Årsberättelser 1930 p. 8.

[3] Hufvudstadsbladet 1930 May 24th. Compare also SPJ 1930 p. 1707 concerning the pulp market and FPJ 1931 p. 54 about the paper market of 1930: »Last year thus proved to be one of the darkest in the history of the newsprint industry.»

[4] The woodpulp market, FPJ 1931 p. 2. Compare also Berättelse över Finska Cellulosaföreningens verksamhet 1931 p. 3.

while the prices at the end of the year were the following:

Bleached sulphite pulp	$ 2.75—3.50
Strong sulphite pulp	2.10—2.25
Strong sulphate pulp	1.50—1.75
Newsprint	62.—

All the pulp prices quoted in the market survey are per 100 lbs. ex dock Atlantic harbour, while the newsprint price is per 2 000 lbs. fob N.Y. City.

The fall of prices was very serious, as we see, particularly in respect to strong sulphite and strong sulphate. So far as Finland was concerned, there was no possibility for a continued successful activity other than a rapid reduction of costs of production. This did in fact succeed beyond expectation, although the high prices of the pulp wood, which the factories had bought about two years previously as raw material, had an unfavourable influence on the economic result as a whole. The USA market, nevertheless, for the first time took the third place in Finland's foreign trade, a position that the USA afterwards almost without exception kept until the outbreak of the new World War. This, however, did not depend upon any increase worth mentioning of the exports to the USA but rather on the fact that Belgium, still one of Finland's most important markets in 1929, fell back to the sixth place in 1930. The total value of the Finnish exports to the USA during the said year amounted to 412 million marks, which includes products of the forest industries to an amount of nearly 200 000 tons and a value of 347 million marks.

Those who had hoped for a change for the better in the world economic situation in 1931 were, as we know, bitterly disappointed. Concerning the general situation FPJ wrote as follows:[1] »Katastrofalt fallande pris på alla produkter, vikande börsvärden med fullkomligt sammanbrott av vissa kurser, bankfallisemang av hittills oanat omfång, minskad köpkraft på snart sagt alla områden, sinande företagaranda och svindlande arbetslöshetssiffror i de ledande kulturländerna hava varit utmärkande för det gångna året.» (Catastrophic drops in prices on all goods, recessions in exchange quotations with complete failure of some stocks, bank failures of heretofore undreamed of extent, decreased purchasing power in very nearly every field, dwindling business initiative, and staggering unemployment figures in the chief civilized countries have characterized the past year.) This analysis of the situation was, we regret to say, in no wise exaggerated. The curtailment of production in the forest industries which had begun already in 1930 continued also during 1931. The Sulphite Pulp Suppliers thus raised the previously stipulated curtailment of production by a further 15 per cent to 30 per cent.

Opinions concerning the influence of this move on the American market seem to differ widely.[2] When England in September left the gold standard and at the same

[1] Pappersmarknaden under år 1931, FPJ 1932 p. 61.

[2] For a more detailed review of the question reference is made to the chapter on sales organization p. 56.

time changed the guiding lines of her customs policy, the confusion was naturally further increased. When within three weeks Sweden, Norway, Denmark, and Finland had followed the example of England, a real currency crisis ensued. This was one of the primary causes of a number of different restrictions realized in the world trade which characterized the trade policy during the first half of the 1930:ies. Concerning this FPJ wrote among other things as follows:[1] »Bortser man från förhållandena under världskriget och de närmast påföljande åren har icke, alltsedan under decennierna efter Napoleon-krigen en ordnad världsekonomi tog vid, världshandeln varit utsatt för så många och djupgående inskränkningar som vid utgången av 1931.» (Except during the World War and the years immediately following, world trade has not been subjected to so many or so severe restrictions as in 1931, since an ordered world economy arose in the decades after the Napoleonic wars.)

The USA had also in 1931 the doubtful honour of heading the depression. Great restrictions had to be made in all branches of industry. The steel industry was thus operating at only one fifth of its working capacity. Also the USA pulp and paper industry, which in 1930 still got along pretty well, was forced to cut its production to 65 per cent of capacity. The sudden expansion of the pulp industry on the West coast constituted a contributory cause. In a very short time there had been realized a production capacity amounting to 350 000 tons, seeking an outlet principally in the New England states and in the Middle West. It was no easy matter for Finland to maintain exports under the existing conditions. The costs of production, which the factories had especially endeavoured to reduce, became unfavourable on account of the above mentioned restriction of production in the sulphite industry. Also certain materials which had to be bought in gold currencies, for instance sulphur, were almost twice as expensive as before. Also relative freight costs had risen a great deal on account of the currency exchange rates. In view of the facts mentioned above, the fact that exports to the USA despite everything could be considerably increased in quantity was due chiefly to the legalization of the depreciated value of the Finnmark which followed the abolishing of the gold standard. The foreign rates of exchange rose by 70 per cent above gold parity. The average rate of exchange of the dollar, which had remained unvarying at 39: 70 during a long course of years, rose to 43: 54. The economic result was far from brilliant. Prices had to be lowered continuously during the whole year, particularly in the USA. Thus the following prices were quoted at the end of the year:[2]

Bleached sulphite pulp	$ 2.——2.20
Strong sulphite pulp	1.50—1.70
Strong sulphate pulp	1.50
Newsprint	57.—

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

[1] Pappersmarknaden under år 1931, FPJ 1932 p. 61.
[2] Berättelse över Finska Cellulosaföreningens verksamhet 1931 p. 4.

As is shown by the above quotations the drop in prices, except those for strong pulp, was very striking. The fact that the strong sulphate was able to hold ist own pretty well was the result of an increased demand in England, as a result of an expected customs duty on wrapping paper to be introduced during the year.

The general situation during 1932 continued to show new bottom prices. Many economists believed that the long duration of the crisis was due to an effort to unnaturally delay production and consumption, so that the economic factors had no opportunity of developing freely. FPJ wrote about it:[1] »It is not necessary to emphasise that developments also within the international paper industry clearly indicate that no permanent improvement is possible until it is realised that unhampered, sound trade relations between nations are the only firm foundation for general prosperity.» In the USA efforts were made partly to adapt oneself to existing conditions and partly to take measures favouring inflation in order to force prices upwards. President Hoover thus founded the institute called the Reconstruction Finance Corporation which, among other things, discounted bills of up to 12 months in order to facilitate exports. The reason for the USA having been particularly struck by the crisis, in spite of the fact that her exports amounted to only seven per cent of the total production, is to be sought in certain specifically American conditions. The highly developed rationalization of production may be mentioned among these, and the generally extended system of sales against payment by instalments, whereby purchasing power was tied up long in advance.[2] Also, the high wages which raised the costs of production in a catastrophic manner had an unfavourable influence, particularly in regard to the possibilities of competition abroad. The considerable reduction of wages taking place does not seem to have corresponded to the decline in the price level.[3] On account of the strained situation of the American industries a rather extended activity ensued to force introduction of currency customs tariffs directed against countries with depreciated currency.[4] According to estimates, the North American newsprint industry was engaged to less than 50 per cent of its capacity. The world consumption amounted to five million tons, while the estimated capacity was up at 8.5 million tons.[5] The total production of paper in the USA amounted to about 7.3 million tons, which was a reduction by 28 per cent as compared to that of the best year, 1929. It should, nevertheless, be noted that the general reduction in the whole industry of the country amounted to about 50 per cent. As to mechanical and chemical pulp the production of the

[1] The Paper Market in 1932, FPJ 1933 p. 49.
[2] Compare [Stjernschantz] 1931 p. 230 and Taloudellinen katsaus, 1932 p. 17.
[3] Compare statements of Procopé in FPJ 1932 p. 451 and APPA concerning the pulp and paper industry of the United States ref. in SPJ 1932 p. 91: »En allmän lönenedsättning har gjorts inom industrin, men i allmänhet har dessa reduktioner icke uppgått till mer än 15 proc.» (Wages have been reduced throughout in industry, but in general this reduction has not exceeded 15 per cent.)
[4] Compare chapter on trade and tariff policies.
[5] Compare Hornborg 1943 p. 90 and The Paper Market in 1932, FPJ 1933 p. 48. The highest consumption 1929 amounted to six million tons.

United States declined for all grades by a total of 12.5 per cent and the total imports by 9 per cent as compared to those of 1931. The decline in imports, however, touched Canada principally, while Finland in spite of all difficulties succeeded in retaining and even slightly extending her exports to the USA. The reduced production in the mills, it is true, meant a great economic sacrifice, but it should be taken into consideration that the quality was improved on account of the moderated working speed. This was of no slight importance as regards the exports to the USA, where the quality, particularly of chemical pulp, is often decisive.[1]

In the beginning of 1932 the prices were as follows:[2]

Bleached sulphite pulp	$ 2.25
Strong sulphite pulp	1.60—1.75
Strong sulphate pulp	1.50—1.65
Newsprint	53.—

and at the end of the same year:

Bleached sulphite pulp	$ 2.10
Strong sulphite pulp	1.60
Strong sulphate pulp	1.25
Newsprint	45.—

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

APPA wrote[3] that the price level during the first half year of 1932 showed few changes but that later on a decline of prices of almost all products occurred, so that the prices fell considerably under the level of 1913. The fact was that prices steadily declined even when expressed in currencies that had abandoned the gold standard. The USA market remained in the second place so far as Finland was concerned with total exports amounting to 444 million marks, of which products of the forest industries amounted to 242 000 tons at a value of 409 million marks. The exports of plywood and other woodgoods continued to be extremely small compared to the products of the pulp and paper industry.

The first signs of a general improvement in the world's economy could be noticed in 1933.[4] The turn of the year 1932—33 thus represented the wavetrough when the depression touched its bottom. The great political events were, nevertheless, not apt to awaken optimistic opinions as to the future. The disarmament conference at Geneva was ineffective at the same time as Germany's leaving the League of Nations increased the political tension in Europe. In the USA, Roosevelt took drastic measures in order to stimulate trade, lessen unemployment, and increase purchasing power. The new National Industrial Recovery Act obtained a radical

[1] Compare [Procopé] 1932 p. 451 and Sourander and Solitander 1943 p. 217.
[2] Wood Pulp Market, FPJ 1933 p. 3.
[3] Ref. in SPJ 1933 p. 90.
[4] Affärsvärlden 1933 p. 18, also Hornborg 1943 p. 6.

significance for the economic development. SPJ wrote about it as follows:[1] »att det hittills av kapitalistisk individualism i hög grad präglade amerikanska näringslivet underställes en reglering av statsmyndigheterna i former som närmast kunna betecknas vara av statskollektivistisk karaktär.» (that American industry, heretofore bearing so strong a stamp of capitalistic individualism, be subjected to government regulation of a form most aptly described as state-collectivistic.) In particular, it was of great importance that the law entitled the president to take almost any measures as regards imports, if, after due investigation, it was found that there was prejudicial competition in question.[2] The first visible result of the new act, so far as the pulp and paper industry was concerned, was the General Code, which after repeated revisions finally came into force on November 27th. In spite of the special crisis, brought about in the USA by all these reforms, the consumption of wrapping paper and newsprint increased. The advertisement material in the newspapers increased, which circumstance always has been one of the best barometers of the American market. FPJ wrote about the paper market:[3] »As a general observation it may be said that the year 1933 began with a rather restricted demand, which, however, later on increased somewhat for most qualities.»

The price quotations on the USA market were as follows:[4]

	Beginning of 1933	End of 1933
Bleached sulphite pulp	$ 2.10	$ 2.75—2.85
Strong sulphite pulp	1.60	2.10—2.25
Strong sulphate pulp	1.25	1.85—1.90
Newsprint	45.—	40.—

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

The striking increase as regards pulp was due to the sudden drop of the dollar and thus merely fictive.[5] In reality prices showed a further decline of 10 to 20 per cent expressed in paper currencies.[6] The Bank of Finland's average rate of exchange for the dollar, which in 1932 had been up to 64: 89, declined during the year, so that the average became 55: 03. The price of newsprint declined during the whole year and at its end could be stabilized at $ 40.— only thanks to the intervention of the National Industrial Recovery Act. Rather large sales to the USA had been closed at long delivery terms, leaving no possibility for coverage against currency losses. In spite of these unfavourable circumstances, the value of the Finnish exports

[1] Roosevelts industrikontroll, 1933 p. 650.
[2] Compare the claims on the introduction of currency customs tariffs. Compare also p. 72.
[3] The Paper Market in 1933, FPJ 1934 p. 53.
[4] Wood Pulp Market, FPJ 1934 p. 2.
[5] Compare Wood Pulp Market, FPJ 1934 p. 2: »The advance in prices does not, however, compensate the fall in the exchange.» Also Wood Pulp Market, FPJ 1935 p. 1 and Berättelse över Finska Cellulosaföreningens verksamhet 1934 p. 3.
[6] Hornborg 1943 p. 92.

increased by close to 20 millions to a total of 462 million marks. Nevertheless, this increase did not balance the increasing importance that the exports to Germany had acquired during the course of the year, so that the USA dropped back to the third place in Finland's foreign trade.

The promises as to a beginning recovery that were indistinctly seen in 1933 were entirely fulfilled during the next few years. However, 1934 was still in many respects a year of contrasts. The countries belonging to the so called gold block still felt the depression, while an evident rise in the tide of the market was noticeable in other parts of the world. Politically, the year was considerably calmer than the previous ones. Also a first faint light was visible in 1934 after the marked nationalism that had asserted itself in the customs tariffs legislation, when Congress accepted Roosevelt's Trade Agreement Program. The increase in the consumption of industrial products was considerable in many places. In the USA the consumption of newsprint was 2.9 million tons, which corresponds to an increase of 15 per cent compared to the previous year. This increased demand, however, benefited chiefly Canada, the paper production of which country already this year attained the level of 1929. Concerning the USA market Swanson wrote in PTJ: [1] »Problems of exchange and other economic were less difficult, and it is reasonable to assume that, in many respects, 1934 will be considered the most encouraging year since 1929 although, of course, as the year progressed, there were times when tendencies for uncertainty prevailed for short periods.»

The pulp imports of USA amounted to 1.7 million tons at an approximate value of 62 million dollars, showing an increase in quantity of nine per cent as compared to the previous year. The new organization in the pulp and paper industry continued also with undiminished energy. The above mentioned General Code was subjected to a thorough revision during the year and the »Revised Code of Fair Competition for the Paper and Pulp Industry» was substituted for it. The USA newsprint producers set themselves absolutely against the newsprint code that had been worked out, since on account of the price stipulations they considered themselves at the mercy of the Canadian newsprint producers. The opinion was that the Code made purchases from Europe impossible.

The increasing demand for pulp and paper products did not realize any rise of prices in spite of the fact that most of the other commodities on the world market were quoted higher than during the previous year. During the year 1934 the domestic market prices were as follows:[2]

Bleached sulphite pulp	$ 2.75—2.85	the whole year
Strong sulphite pulp	2.10—2.25	the whole year
Strong sulphate pulp	1.85—1.90	at the end of the year 1.65
Newsprint	40.—	the whole year

[1] Swanson 1935 p. 33.

[2] Wood Pulp Market, FPJ 1935 p. 2.

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

That an increase of prices failed to appear was due partly to the fact that the productive capacity in the USA that had not been exploited during the depression was now again in use, and partly also to the competition between the producers themselves.

Concerning the development in 1935 FPJ wrote:[1] »Compared with 1934, last year no doubt brought better conditions in many sections of international trade and commerce; for the paper market, however, the year, was a period of gains and disappointments.» The rise in the tide of the market began more and more to assume a political character. European conditions did not show any signs of becoming stabilized. When Germany had given notice with regard to the treaty of Versailles, and the fleet conference in London had resulted in a complete failure, armament increases began and contributed to a greater economic activity.

Scandinavian coöperation was strengthened during the year by the foundation of two new combines, »Scan greaseproof» and »Scannews». The increase in the consumption of almost all kinds of paper continued. The production in the USA increased somewhat, if not at the same speed as the previous year. The production of pulp manufactures amounted to 4.5 million tons showing an increase of 8.9 per cent compared to 1934. The total imports during 1935 were 7 per cent larger than the previous year. The manufacture of Kraft paper attained the level of 1929 and the consumption of newsprint was about six per cent higher than in 1934. The production of ground wood pulp was the only branch of the pulp and paper industry that showed decreasing figures in spite of the imports having been practically unchanged.

By the commercial treaty concluded between the USA and Canada this year newsprint was definitely transferred to the USA free list, whereby imports free of customs duties were guaranteed, an advantage by which Finland, as a most favoured nation, automatically profited. Besides this the treaty prohibited the introduction of quotas or other quantitative restrictions in regard to imports of newsprint, yet with certain reservations. Thanks to this, Finland's exports of newsprint to the USA could continue without hindrance, contrary to what was the case of most other countries.[2] Later in the year the customs tariffs for some kinds of wrapping paper was lowered from 30 to 25 per cent ad valorem through the commercial treaty between USA and Sweden.

Swanson wrote in PTJ concerning the American market:[3] »Among the several noteworthy and gratifying features of last year, the most outstanding of all were

[1] The Paper Market in 1935, FPJ 1936 p. 3.

[2] Import restrictions of different kinds struck amongst others Germany, the Netherlands, France, Denmark, Switzerland, Italy, Argentine, Brazil etc. Compare Runeberg 1938 p. 69—74 and Finska Pappersbruksföreningen Årsberättelser 1931 p. 6.

[3] Swanson 1936 p. 26.

the brisk demand for kraft pulp, the large tonnage produced, consumed and sold, not only for deliveries this year, but for 1937 as well.» FPJ on the other hand wrote:[1] »Sales to USA increased substantially, in part thanks to the economic improvement in that market coupled with the stabilization of the political situation.»

Development during the year was also advantageous in so far as the buyers began again to favour long term contracts.[2] The production of 1936 was already wholly placed at the turn of the year and the sales for 1937 were in full swing. Thus the hand to mouth sales which flourished during the crisis began to be written off. This was a circumstance which in the end was advantageous to buyers as well as to sellers since the short term contracts favoured price reductions and led to continual changes of pulp at the paper mills, whereby these lost both time and money, since the qualifications of the new pulp had to be thoroughly tested. In order to facilitate economic activity the NIRA-policy was more and more abolished as the years went on. The future of the dollar, however, still fostered apprehensions in connection with Roosevelt's enormous new budget proposition.[3]

As to the general price tendency it can be said that a strong decline in the beginning of the year was in some degree compensated by prices increasing towards the end of the year. The quotations were as follows:[4]

	Beginning of 1935	End of 1935
Bleached sulphite pulp	$ 2.75—2.85	$ 2.50—2.60
Strong sulphite pulp	2.10—2.25	1.90—2.05
Strong sulphate pulp	1.65	1.70—1.75
Newsprint	40.—	40.—

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

Particularly high-bleached sulphite, which during the year attracted special attention on the market, nevertheless was quoted at $ 2.90 ex dock Atlantic harbour, which was $ 6—8.— more per short ton than the minimum price fixed by SPS for the standard quality of bleached sulphite. Also the price of strong sulphate could be raised somewhat towards the end of the year. On the other hand newsprint continued to be bottom quoted at $ 40.—. The principal cause of this was undoubtedly the competition between producers.

The total exports from Finland to the USA during the year amounted to 562 million marks, of which 94 per cent were products of the forest industries. In spite of the fact that the share of the USA in Finland's total foreign trade increased from 7 to 9 per cent, the share of Germany was still slightly larger and the USA

[1] Wood Pulp Market, FPJ 1936 p. 2.
[2] Compare Swanson 1936 p. 26 and Wood Pulp Market, FPJ 1936 p. 1.
[3] Compare The Wood-Pulp Market, SPJ 1935 p. 33 and The Paper Market, SPJ p. 36.
[4] Wood Pulp Market, FPJ 1936 p. 2. Compare also The Wood-Pulp Market, SPJ 1935 p. 1023.

market thus remained in third place. It was chiefly increased domestic production that made this extension of the business with the USA possible.[1]

In spite of the unsettled political background characterizing the year 1936 with its Abessinian war, the civil war in Spain, the militarizing of Germany, and the general race to armaments as well as the loss of League of Nations prestige, the rising tendency in world economy developed more and more rapidly and almost all countries passed into a marked high tide of the market. FPJ wrote about it:[2] »In 1936 many countries were able to extricate themselves from the most noticeable consequences of the world depression.» The world production of those articles which had not yet attained the level of 1929 passed it in 1936. The great increase of requirements which made it possible for the factories to make use of their full capacity was most significant for the pulp and paper industry.

Concerning the American market in 1936 Swanson wrote as follows:[3] »Based upon available data from various and apparently reliable reports, it is evident that 1936 will go down in history as the greatest year so far in regard to production and distribution of wood pulp. All kinds of Chemical pulp were in brisk demand and Kraft pulp and Bleached Sulphite pulp enjoyed something like a boom during the second half of the year.» Also the paper industry showed a lively activity in different branches. Since also the price development was favourable, it is not to be wondered at that new construction activity increased its pace again, chiefly in the Southern states, the Kraft pulp of which, produced from domestic raw material, already successfully competed with pulp imported from Scandinavia. Enlargement and modernizing of older concerns were the order of the day, while at the same time factories which had ceased work during the depression were set going again. In spite of the rapid increase of production which made itself felt when all the mills were running at full capacity, a scarcity of chemical pulp began to be noticeable and this increased more and more towards the end of the year. A situation that had not occurred for years ensued, namely that the need of pulp exceeded the offered production. This, naturally, was only a fortuitous situation, partly caused by speculation, since the new construction activity still strongly exceeded the expected increase of the demand.[4] In the course of the year it was apparent that the efforts to attain a freer trade were greater than formerly. The tariff agreement which came into force in November was of fundamental significance as regards the Finnish trade with the USA, since mutual customs tariff reductions were granted by it. A closer study of this agreement lies within the range of the chapter on trade and tariff policies. Through the lowering of the customs duties on plywood, amongst

[1] Compare Berättelse över Finska Cellulosaföreningens verksamhet 1935 p. 3.
[2] Wood Pulp Market, FPJ 1937 p.l. Compare also Finska Pappersbruksföreningen Årsberättelser 1936 p. 9.
[3] Swanson 1937 p. 46. Similar statements also in The Commercial Outlook, 1937 p. 867.
[4] Compare for instance the USA production of Kraft pulp, which increased by 68 per cent in two years, 1936—38.

other articles, from 50 to 33 per cent it became possible for the Finnish plywood factories to try to work themselves into the USA market. The rising tide of the market showed itself in Finland through increasing figures of production in industry, a greater activity in foreign trade, a favourable balance of trade, and an easy money market.

As to the economic result, discontent still reigned in spite of the raised prices, partly on account of the production of 1936 having been sold in advance and partly because a rise in the general costs of production had taken place. On account of the rise in prices of raw materials the pulp and paper industry profited but slightly from the higher prices obtained for their products but, as aforesaid, it had a favourable effect on the year's balance of trade. In December 1936 the following prices were quoted:[1]

Bleached sulphite pulp	$ 3.15—3.25
Strong sulphite pulp	2.40—2.50
Strong sulphate pulp	2.10—2.20
Newsprint	41.—

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

These prices did not yet attain the level of the 1920:ies even disregarding the fact that the gold value of the export currencies was only 50—60 per cent of previous values. The rate of exchange of the dollar had been stabilized at about 45: — to 46: —, which rate of exchange reigned with extremely small fluctuations until 1939. The Finnish Cellulose Association wrote,[2] however, in respect to the price level, that it »väl icke kan jämföras med 1920-talets, men i alla fall bör betecknas som tillfredsställande.» (cannot be compared to that of the 1920:ies but must in any case be considered as satisfactory.) The increase of $ 1.— quoted for newsprint was particularly remarkable. The uninterrupted price reduction endured by this kind of paper since the beginning of the 1920:ies was thus finally broken. The newsprint consumption in the USA in pounds per person showed the following development since the change of the tide of the market in 1929.[3]

1929	62.0
1932	45.5
1934	48.0
1936	57.0

In 1936, the consumption of 1929 thus had not yet been attained, so that there were good hopes of a continued increase. The causes for the change in the development of prices will be touched upon below.

[1] Wood Pulp Market, FPJ 1937 p.2.
[2] Berättelse över Finska Cellulosaföreningens verksamhet 1936 p. 3.
[3] Finska Pappersbruksföreningen Årsberättelser 1936 p. 12.

The total exports amounted to 668 million marks, which was an increase of more than 100 millions over those of the previous year. The products of the forest industries constituted 95.2 per cent of this, which was a record never attained either earlier or later. Newsprint began to take a more and more important position, although pulp continued to be the chief article for export. Also wrapping paper showed a not insignificant increase from 4 700 tons to 6 900 tons. Thanks to the above mentioned customs duty reduction for plywood a smaller lot could be placed on the American market towards the end of the year.

It is to be regretted that this favourable development which the year 1936 was able to show did not continue undisturbed for long. During the first quarter of 1937 the general tide of the market was still on the increase, but during the course of the summer an obvious reverse was first noticed in the USA, where the stock exchange showed a fall in rates comparable to that in the black week of 1929. Swanson wrote concerning the beginning of the year:[1] »During the first 4 or 5 months of 1937 even the most sensible members of the woodpulp industry and most conservative buyers were swept along, to some degree, by the tide of over-optimism and over-action.» The demand for all kinds of pulp and paper products was forced to such an extent during the beginning of the year that the producers had difficulties in meeting the needs of their customers. This enormous demand was, however, caused chiefly by speculation connected with the fear of higher prices.

The real causes of the reverse seem to have been rather obscure. Swanson wrote about it among other things:[1] »It has been inferred that the slump of business in general, the increased production, together with high prices and frequent disturbances in the commercial and political fields, throughout the world, may be considered belonging to the group of causes for the recent upheaval in the pulp business.» The political horizon was, it is true, still covered by storm clouds, but the more primary cause of the depression in the pulp and paper industry seems, nevertheless, have been overproduction chiefly on account of the enormous expansion of the sulphate pulp industry in the Southern states.

In industrial and financial circles in the USA the opinion prevailed that the decline in the tide of the market was a result principally of government interference with industrial life contrary to economic laws as well as of encroachments of the labour organizations in many quarters. In fact the altogether too rapid rise of the level of wages probably prevented the continued development of industrial life and thereby caused the crisis. The brevity of the high tide of the market, thanks to which stocks of different kinds of products did not have the time to increase, and the favourable bank situation caused a universally spread optimism as to the probable duration of the reverse.[2] Nonetheless, the weakness continued toward the end of the year, and as early as October the Canadian newsprint mills were obliged

[1] Swanson 1938 p. 48.
[2] Compare for instance Ohlin 1937 p. 3.

to introduce a 20 per cent's curtailment of production for an indefinite time. During the autumn, within a few months, the prices of leading staple commodities declined by 30 to 40 per cent, stocks increased, and a general drop in the demand for goods became noticeable. The employment index for the American pulp and paper industry collocated by APPA in per cent of capacity, which in April attained 92.1 per cent, had by November dropped to 61.1 per cent. This decline from the high point in April must be considered very drastic but still not to be compared with the decline in the steel industry, which was working at less than 20 per cent of capacity.

Particularly the sulphate, board and Kraft paper industries, which had been enlarged a great deal during the short rising tide of the market, were badly struck by the reverse. The unemployment figures also showed a catastrophic increase during the year. The total number of unemployed rose by three millions to 13 millions, or nearly as many as in 1933. In spite of this change for the worse in the market situation, the world manufacture of products of the pulp and paper industry in 1937 showed figures never seen before. In the USA the quantity of chemical pulp imported exceeded that of the previous year by six per cent, while the corresponding increase in value was not less than 16 per cent. Only mechanical pulp showed, as usual, a diminished volume but, nevertheless, had increased in value by seven per cent.[1] The total pulp imports amounted to the record figure of 2.2 million tons. The tide of the market in Finland could, in spite of the change of the tide, be considered good. Production increased, the situation on the money market continued easy, the foreign trade balance was active, and the balance of payments toward foreign countries was favourable. The prices of raw materials for the forest industries, however, had risen to a level that was higher than that in many of Finland's most important competitor countries. The quotations during the year were as follows:[2]

	Beginning of 1937	End of 1937
Bleached sulphite pulp	$ 3.15—3.25	$ 3.—
Strong sulphite pulp	2.40—2.50	2.50
Strong sulphate pulp	2.10—2.20	2.10—2.20
Newsprint	42.50	42.50

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

The pulp quotations at the end of the year were, however, purely nominal, since neither sales nor fixed prices were realized in spite of the lower quotations. The Finnish newsprint sales were closed according to the agreement within Scannews at a price that was $ 5. — below the American domestic market price. The newsprint mills on the West coast debited $ 46.— for spot lots to be delivered in 1937, which indicated a continued enhancement of prices.

[1] Swanson 1938 p. 48.

[2] Berättelse över Finska Cellulosaföreningens verksamhet 1937 p. 3 and Finska Pappersbruksföreningen Årsberättelser 1937 p. 12.

The value of the exports to the USA continued increasing and a new record was noted with 740 million marks. Sulphite cellulose accounted for 278 million marks of this and newsprint for another 219 million marks.

The beginning of 1938 showed a further change for the worse in the general world economic situation. The large purchases of a speculative nature which were clearly shown by the record figures of 1937, had caused abnormally heavy stocks, that weighed on the market for a long time.[1] Political developments in Europe constituted during the whole year a balancing on the edge of the abyss of war, which fact influenced economic life in the highest degree. The feeling of insecurity that worried the market lead to unrestrained competition. FPJ wrote about the chemical pulp market in 1938 as follows:[2] »The year now ended was very trying for the Finnish cellulose industry, and it is no exaggeration to say that the Finnish Cellulose Union during the twenty years of its existence has never before, even during the worst depression in 1931 and 1932, encountered such serious difficulties as last year.» Prices declined again at a quick pace, which caused claims for cancelling and converting of earlier contracts. There was a decadence in international trade customs which spread more and more even in purchase circles that were formerly considered conservative. Even reconversions occurred, which finally caused the prices agreed upon for new quantities to become purely imaginary.[3]

As to the American market, the demand was weak and orders were scarce during the whole year. Swanson in PTJ wrote:[4] »While it is practically conceded that 1939 closed the most trying period through which the pulp business has passed for many years, there is a sizeable host of optimists who insist the worst is over.» After the turn of the half year a certain improvement was in fact noticed in many quarters, evidently on account of normal economic reactions. The small stocks of staple articles and the extremely liquid bank situation contributed to this.[5] In the autumn, after the relaxation of the political tension in connection with the München conference, the tide of the market in the USA rose somewhat. The English-American commercial treaty entered into in the course of the year contributed to a continued stabilization, even if its direct influence on the exports of products of the forest industries was rather small.

The endeavours of the USA towards national self-sufficiency in regard to pulp production continued during the year. The demand for bleached Kraft pulp continued to increase, and it began more and more to displace sulphite pulp on account of the greater strength and better quality of the paper therefrom. Also, newsprint produced

[1] This was valid only in regard to products of the pulp and paper industry. There were few and small stocks of different staple articles left at the turn of the year.

[2] Wood Pulp Market, FPJ 1939 p. 1.

[3] Compare Berättelse över Finska Cellulosaföreningens verksamhet 1938 p. 3.

[4] Swanson 1939 p. 45.

[5] There were, however, considerable stocks of pulp in the American ports of import. Compare note 1.

from the pine of the Southern states began to compete on the market. In northern Europe as well as in North America, radical restrictions of production were resorted to in order to adapt the supply to the decreased consumption and above all to give the consumption an opportunity of bringing down the stocks which had been piled up during the period of speculation. Thus Scankraft at the beginning of the year introduced an obligatory curtailment of production which culminated in June at 65 per cent.[1] The other combines also took similar measures. SPJ wrote concerning these curtailments:[2] »Detta målmedvetna angripande på olika fronter av »överproduktionsproblemet» i en nedåtgående konjunktur har inom pappersindustrien saknat motstycke vid tidigare vändpunkter i konjunkturerna.» (This purposeful attack on many fronts on the »overproduction problem» in a falling market is without parallel in the history of the paper industry in previous crises.) The production and consumption of articles of the forest industries in the USA, which during the previous years had been something resembling records, showed a considerable decline. The consumption decreased also in an absolute sense; for instance, the size of newspapers was reduced by their being printed with narrower margins. The production of paper decreased by 12 per cent to 10.3 million tons. This, naturally, strongly influenced the pulp imports as shown by the following figures:[3]

Total pulp imports of the USA.

1934	1.6 million tons
1935	1.7 »
1936	2.1 »
1937	2.2 »
1938	1.5 »
1939	1.8 »

The total imports of pulp had been on the increase since 1934 but decreased in 1938 by 700 000 tons.

The price level could not be maintained during reigning conditions. The quotations were:[4]

	Beginning of 1938	End of 1938
Bleached sulphite pulp	$ 3.—	$ 2.50
Strong sulphite pulp	2.50	1.90—2.10
Strong sulphate pulp	2.10—2.20	1.50
Newsprint	50.—	50.—

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

[1] The expression »obligatory curtailment of production», nevertheless, according to most of the statutes of the trusts only entails that a certain charge must be paid for any production encroaching on the stipulated curtailment. This charge, although high enough, was no definite impediment to an unlimited production. Compare the statutes of SPS etc.

[2] The Wood-Pulp Market, SPJ 1938 p. 144.

[3] Compare p. 85.

[4] Berättelse över Finska Cellulosaföreningens verksamhet 1938 p. 3.

The quotations for newsprint were the same as those of the official market of Canada. The official domestic market price of the Great Northern on the other hand was $ 48.— fob cars New York. The Canadian mills, which had succeeded in disengaging themselves from their regrettable »interlocking contracts» were to a great extent able to press the newspapers in the USA to pay $ 2.— more than for deliveries from the mills of the USA. The consequence of this was, however, that the relations between the publishers and the newsprint industry of Canada became less good.

The development in 1939 was from the start dominated by the outbreak of the war on September 1st, which overshadowed everything. According as it became evident that the war was unavoidable, the armament preparations influenced the further course of the tide of the world-market. While the buyers at first had preserved a waiting attitude and increased their purchases only in connection with conversions of old contracts, they began later on to anticipate their deliveries.

Concerning the American market during the year Swanson wrote:[1] »Despite certain unfavorable features throughout the year of 1939, the wood pulp industry continued to develop in momentum.» The production in the South increased considerably. The recovery of industrial activity in view in the autumn of 1938 showed a tendency towards stagnation in the beginning of 1939. Already in April, however, activity in the pulp and paper industry was very brisk and the order stock satisfactory. The index of occupation collocated by APPA for the industry attained the figure of 81.5 per cent for February (1938 in February 68.7 per cent) which must be considered very satisfactory. It should be remembered that the index figure even during a high tide of the market rarely exceeded 90 per cent. The figure 92.1 per cent noted on April 1st 1937 was thus only slightly under the real effective capacity of the industry.

An intensive campaign against imported pulp was made during the year from the side of the pulp manufacturers on different fronts but chiefly in order to force the American authorities to apply the anti-dumping law.[2] An order was issued by the American Ministry of Finance to the effect that security should be given for the importation of pulp, that there was no dumping in question. This order, nevertheless, was cancelled so far as the northern countries were concerned. After the outbreak of the war the American authorities informed the world that dumping investigations would not be carried through. Also the investigation into the pulp import situation, started by the U.S. Tariff Commission, was cancelled since it was of less immediate interest.

Through the outbreak of the war the American forest industries naturally came into an entirely new situation. At first all imports ceased for a few days, while everybody waited for information concerning war risk problems. When the war risk premiums had been published — the raise for the eastern coast of the USA was 200 per cent — shipping started anew. A marked rising tide of the market began

[1] Swanson 1940 p. 42.

[2] The Wood-Pulp Market, SPJ 1939 p. 512.

in the USA, where the pulp and paper industry could be employed to practically its full capacity.[1] The corresponding price reaction was at first very moderate. Swanson wrote about it:[2] »The primary factors for only modest advances were the increased activity in shipping during October and November, the substantial tonnage of chemical pulp on dock at Atlantic and other ports, at consumers' mills and warehouses and the usual reluctance of American pulp manufacturers to support any move which might have a tendency to encourage rapid advances and high prices.» These points of view advanced by PTJ were without doubt correct, but one should also remember that the American imports from Europe during the first World War continued more or less regularly until late in the autumn of 1916. The catastrophically rapid development of the trade war in respect to the warring as well as the neutral powers during this war was scarcely to be forseen. The quotations at the turn of the year 1938—39 were as follows:[3]

Bleached sulphite pulp	$ 2.50
Strong sulphite pulp	1.95—2.10
Strong sulphate pulp	1.50—1.60
Newsprint	50.—

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

The moderate enhancement of prices made it possible for the Finnish exporters to get compensation for increased freight costs, but did not suffice to cover the increase in costs of production. Besides, prices in the USA declined anew during the first half of the year, while the tendency on the European market already was rising. Bottom was thus touched by bleached sulphite at $ 2.25 and by strong sulphite at 1.75 to 1.90. It was not until just before the autumn that prices began to increase seriously. In order to reduce the stocks at the mills the Finnish Woodpulp and Board Union sent several shipments of mechanical pulp as consignments to the USA.[4] As to chemical pulp, England had contracted immediately at the outbreak of the war for all the unsold goods, so that the exports to the USA touched only previously contracted lots, a fact that, amongst other things, had an unfavourable influence on the American average price of the year.

Finland's trade connections with the USA during the 1940:ies have been altogether dominated by exceptional circumstances in connection with the events of the war. Therefore a more detailed analysis of the market during this period does not seem to be of value for this investigation. The following summary may throw light upon the development.

[1] Compare p. 27 and table 50 p. 99.
[2] Swanson 1940 p. 42.
[3] The Wood-Pulp Market, SPJ 1939 p. 511.
[4] Compare Berättelse över Finska Träsliperiföreningens verksamhet under år 1939 p. 6.

During Finland's winter war 1939—40 exports could still be carried on to a rather large extent, but the difficulties of transportation were great. These were caused not only by the war activities but also by the extremely cold winter and the strong formation of ice ensuing in consequence. During the first weeks of the second World War there still reigned some optimism with respect to the assurances concerning neutral trade given by the powers at war. The lists of contraband did not seem too dangerous. Nevertheless, within a short time mutual reprisal measures started, leading to an almost entire blockade. The insurance war premiums rose to an extraordinary height on account of captures, torpedoing, and mines. Also, freight charges increased in proportion.

When Germany occupied Denmark and Norway, Finland's connections with transoceanic countries through the Baltic Sea were cut off. At the same time the hopes that had been entertained as to the export port of Narvik had to be consigned to oblivion. In order to extend the harbour constructions of Narvik a company with a joint capital of eight million marks had already been founded. This capital was later on disposed of in order to found the company called O.Y. Pohjolan Liikenne A.B. that organized the automobile traffic between Rovaniemi and Petsamo (Liinahamari). Petsamo was then the only breathing hole that remained. The traffic over this port met with great difficulties but was, nevertheless, carried through with unusual energy and an enterprising spirit, until the war broke out anew in Finland.[1] The automobile road to Petsamo was more than 500 kilometers long, and the defective harbour constructions there strongly curtailed shipping possibilities. Also the procuring of navicerts for merchant ships from the great powers presented great difficulties, particularly as to vessels bound for North America.

During the time until the USA herself entered into the war, the American pulp and paper industry experienced a boom period of unexpected dimensions. From 1939 to 1940 the American market changed as follows:

United States production, increase	28.8 %
United States exports, increase	244.3 »
Unites States imports, decrease	39.5 »
United States imports from Europe, decrease	71.3 »
Canadian production, increase	20.4 »
Canadian exports, increase	51.4 »

A more detailed discussion of the changes during the war will be attempted further on. The Finnish exports to the USA of products of the forest industries during this period amounted to:

1940		1941	
1 000 tons	million marks	1 000 tons	million marks
59.0	135.3	12.8	32.8

[1] The first cargo of pulp to the USA via Petsamo left on June 20th 1940.

Compared to previous years these figures show very moderate amounts, but considered against the background of all the difficulties of transportation this is only natural. Sulphite and sulphate pulp as well as newsprint were still the most important groups of goods. The development of prices on the American domestic market was slowly rising, which is shown by the following quotations:[1]

	1940	1941
Bleached sulphite pulp	$ 3.—	$ 3.60
Strong sulphite pulp	2.50	3.15
Strong sulphate pulp	2.10	2.60
Newsprint	50.—	50.—
	(49.— Great Northern.)	

The pulp prices are per 100 lbs. ex dock Atlantic harbour, the newsprint price is per 2 000 lbs. fob N.Y. City.

The increase was not so noticeable as in Europe. The price of newsprint remained unaltered until the commencement of 1943. From May 1942 the pulp and paper industries came entirely under the control of the War Production Board and, since a general price stop also was carried through, the later development was determined by altogether other factors. On June 13th 1941 the last vessel left a Finnish port for the USA, after which there was a four years' break of the trade connections during which period the Finnish-American relations grew weaker year by year, without, however, breaking off entirely.

[1] Daily Mill Stock Reporter 1941 February 18th.

Analysis of Finland's exports of forest products to the USA.

The importance for Finland of the American market during the 1930:ies compared to that of other countries may be gathered from the table below, which gives the value of exports according to sales countries in per cent of the total export value.[1]

Table 4. The exports according to sales countries in per cent of total export values.
Vienti myyntimaittain % koko vientiarvosta.

Total exports million marks / *Koko vienti milj. mk.*	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
	5 404.1	4 456.7	4 631.5	5 297.7	6 226.0	6 240.5	7 222.6	9 379.7	8 431.1	7 710.3
England — *Englanti*	38.9 **1**	44.7 **1**	46.8 **1**	45.9 **1**	46.8 **1**	46.5 **1**	47.9 **1**	44.7 **1**	43.9 **1**	36.2 **1**
Germany — *Saksa* ..	12.5 **2**	8.4 **3**	8.3 **3**	9.8 **2**	10.1 **2**	9.5 **2**	10.0 **2**	13.1 **2**	15.2 **2**	16.6 **2**
USA — *USA*	7.6 **3**	9.3 **2**	9.6 **2**	8.7 **3**	6.9 **3**	9.0 **3**	9.2 **3**	7.9 **3**	9.2 **3**	12.8 **3**
Sweden—*Ruotsi*	2.6 **8**	3.0 **8**	2.6 **7**	2.2 **8**	2.6 **8**	4.9 **5**	5.4 **4**	4.9 **4**	4.8 **4**	6.3 **4**
Holland — *Hollanti* ..	5.9 **5**	5.1 **6**	3.5 **8**	5.0 **5**	4.7 **5**	3.1 **8**	2.8 **8**	3.7 **7**	4.4 **5**	6.2 **5**
France — *Ranska* ..	7.1 **4**	7.2 **4**	6.5 **4**	5.7 **4**	5.0 **4**	4.5 **6**	4.2 **6**	4.8 **5**	3.3 **6**	1.8 **8**
Denmark — *Tanska*..	3.2 **7**	3.3 **7**	2.7 **6**	2.7 **7**	3.7 **7**	3.4 **7**	3.3 **7**	2.6 **8**	3.2 **7**	4.0 **6**
Belgium— *Belgia*....	5.7 **6**	5.9 **5**	5.3 **5**	5.0 **6**	4.4 **6**	5.6 **4**	5.1 **5**	4.5 **6**	3.1 **8**	3.4 **7**
Total — *Yhteensä*	83.5	86.9	85.3	85.0	84.2	86.5	87.9	86.2	87.1	87.3
Other countries — *Muut maat*	16.5	13.1	14.7	15.0	15.8	13.5	12.1	13.8	12.9	12.7

As is shown by the table above, a very great part of the Finnish foreign trade was directed to four countries, England, Germany, USA, and Sweden. During all the 1930:ies three quarters of Finland's exports went to these countries.[2] With the commencement of 1930 the USA pushed forward to the third place after England and Germany. During the years of depression 1931—32 the proportional share of the American market was even slightly larger than that of the German. The fact that the USA took the second place during these years was, however, principally caused by the difficulties the Germans had in paying and by other currency conditions of a more or less casual nature. From 1933 on the USA fell back again to the third place, which position she kept until the outbreak of the war. If one looks at the figures of 1938, being the last whole year of peace, USA kept its place as third, with 9.2 per cent, while Sweden was the fourth, with only 4.8 per cent. In general

[1] Compare Fogelholm 1939 p. 428.

[2] As to imports two thirds fell to the share of these countries. Compare Ulkomaankauppamme suuntautuminen, 1938 p. 1212.

one can say that almost one tenth of Finland's foreign trade has gone to the USA. The average percentage of the 1930:ies was 9.0. The American market has, however, been of much greater importance for certain products of the forest industries than is shown by the above percentage figures. This is particularly true as to sulphate pulp and newsprint.

The development of Finland's USA trade has taken place at almost the same pace as with other countries, so that no comparative per cent increase is to be noticed during the 1930:ies, but a comparison with the figures of the 1920:ies gives a picture of this market's increasing importance.[1] The year 1939 differs from the other years in so far as the USA's proportionate share rose to 12.8 per cent at the same time as England's share declined from 44 to 36 per cent. It is unfortunately impossible to decide, whether this higly interesting tendency was of an incidental nature or whether it introduced a new period, with a more natural balance of trade in regard to England. One can, besides, notice a certain stabilization of the sequence of Finland's most important export markets during the years before the outbreak of the war. Ever since 1933, England, Germany, and the USA, in the order mentioned, have been Finland's foremost buyers.

The Finnish balance of trade as regards the USA was previously strongly passive but has developed towards a greater and greater equilibrium as is shown by table 5.[2]

The enormous excess of imports of the 1920:ies was counterbalanced during the depression and in 1931—36 the balance of trade even showed a small excess of exports due to Finland. In 1937—38, imports from the USA increased more rapidly than the corresponding increase of exports, so that the balance of trade became passive anew, but showed again in 1939 an active excess of about 100 million marks. A balance of trade continuously active for Finland would have been more natural, if we keep Finland's dollar loan in mind.

As already mentioned in the introduction the Finnish exports have always consisted chiefly of products of the forest industries. Table 6 gives an idea of the distribution between this group and other articles.

From the table we see that the total exports have developed towards larger absolute figures and show steadily rising figures from 1934 until the outbreak of the war. Already at the culminating year 1939 the value came very close to 1 000 million marks. Considering the 1930:ies in their totality, we note that exports during this period have more than doubled. In the above figures no fixed tendency can with certainty be shown in the proportion between the products of the forest

[1] On account of the great fluctuations in currency exchange values during the 1930:ies comparisons of values may give somewhat divergent results, but a comparison of volumes is impossible in practice, since exports embrace also piece-goods as well as goods recorded in kilograms and cubic meters.

[2] These values, as also other values given in this analysis, are all based on the data of the official foreign trade statistics, unless differently stated. The statements concerning values are net fob Finnish port.

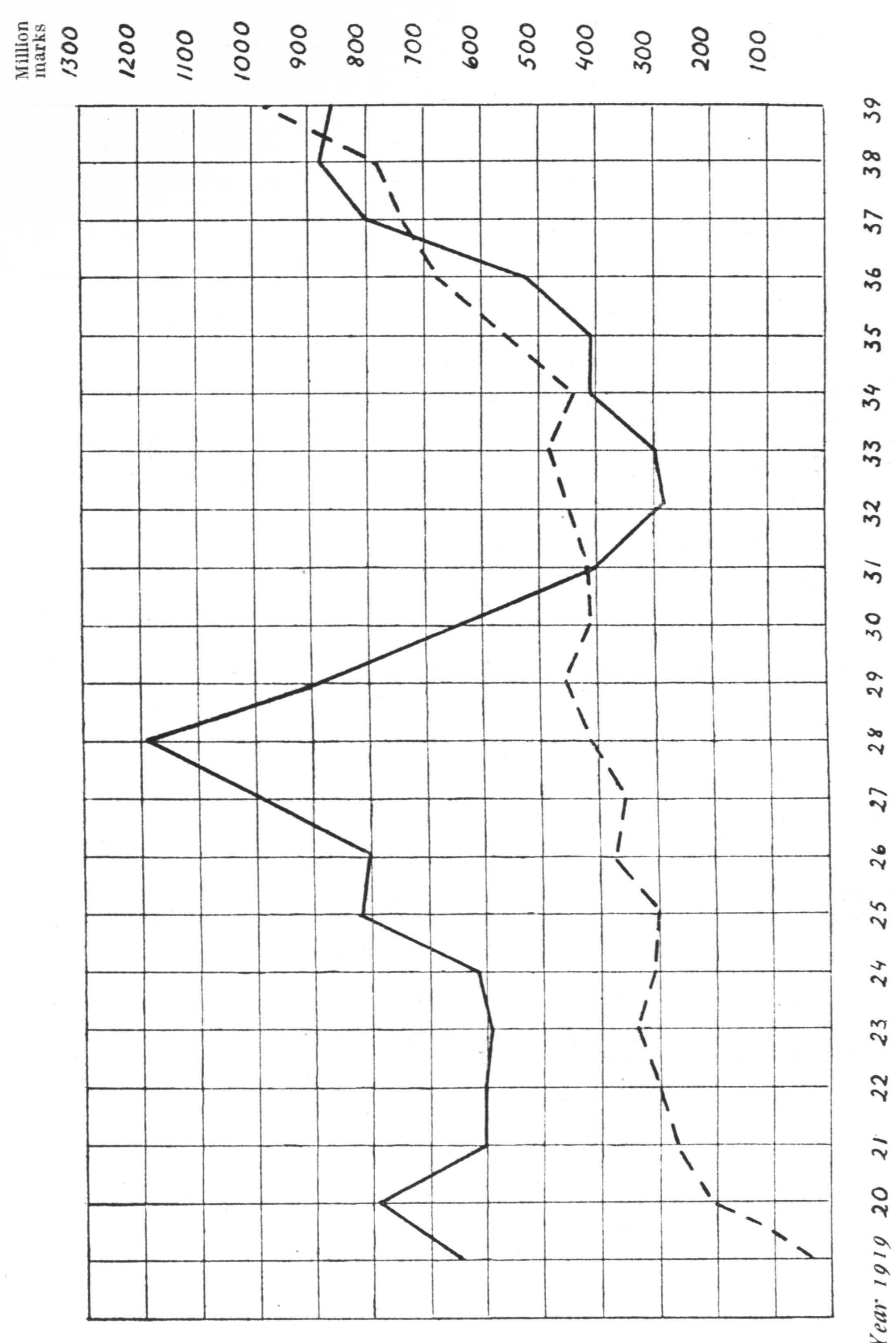


Table 5 (graph.). Finland — United States trade 1919—39 in million marks.
Suomen ja USA:n välinen kauppa 1929—39 (milj. mk).

—— imports to Finland
tuonti Suomeen

– – – exports to the USA
vienti USA:han

Table 6. Finland's exports to the USA in million marks.
Suomen vienti USA:han (milj. mk).

	Total exports *Koko vienti*	Of which forest products *Metsäntuotteita*	Other products *Muita tavaroita*	Distribution in per cent *Jakaantuminen prosenteissa*	
				Forest products *Metsäntuotteita*	Other products *Muita tavaroita*
1929	452.7	383.0	69.7	84.6	15.4
1930	412.0	373.6	38.5	90.6	9.4
1931	412.9	376.9	36.0	91.3	8.7
1932	444.0	409.4	34.6	92.2	7.8
1933	462.2	424.2	38.0	91.8	8.2
1934	429.4	408.4	21.0	95.1	4.9
1935	562.2	528.2	34.0	93.9	6.1
1936	667.6	635.7	31.9	95.2	4.8
1937	740.3	692.7	47.6	93.6	6.4
1938	773.8	718.2	55.6	92.8	7.2
1939	983.9	925.4	58.5	94.1	5.9
1940	149.5	135.3	14.2	90.5	9.5
1941	42.0	32.8	9.2	78.1	21.9

industries and other goods. The proportional share of the forest products seems, however, rather to have increased than decreased during these years. In 1930, the group »other products» thus came to 8.7, in 1936 to 4.8 and in 1939 to 5.9 per cent. This is a development diametrically opposed to the general tendency of Finland's foreign trade, where the share of the forest products has been slowly declining.[1] The exports of lumber and plywood have been very insignificant, so that practically all of the above mentioned figures fall to the share of the pulp and paper industry.

The figures given in table 6 show the value of the direct exports. To a certain extent the Finnish-American trade was, however, carried on through a third country as intermediary. Particularly imported articles of American origin were sold in this manner to a great extent. In regard to exports the intermediate countries, nevertheless, were of slight importance as is shown by the following comparison between sales and purchase countries.

Table 7. Finland's exports to the USA.
Suomen vienti USA:han.

	Total exports *Koko vienti*		Products of the forest industries *Metsäteollisuuden tuotteita*	
	Sales country *Myyntimaa*	Country of consumption *Kulutusmaa*	Sales country *Myyntimaa*	Country of consumption *Kulutusmaa*
1935	562.2	567.9	528.2	531.5
1936	667.6	674.6	635.7	639.5
1937	740.3	745.4	692.7	696.0
1938	773.8	776.8	718.2	716.4
1939	983.9	986.3	925.4	925.9

[1] Compare Viennissä jatkuvaa tervettä laajenemista, 1938 p. 45.

The indirect sale of Finnish goods to the USA during the last years amounted to a value of 3—7 million marks. Considering only the products of the forest industries, the figures for sales and consumption show still smaller differences. A more detailed study of this question is thus void of any practical significance.

Since the official foreign trade statistics do not distinguish between countries of sales and those of consumption until 1935, all the tables given here are, for the sake of uniformity, based on the sales countries.

The following table gives us a more detailed analysis of the Finnish exports to the USA in the 1930:ies of products of the forest industries.

Table 8. Finland's exports to the USA during 1930—41.
Suomen vienti USA:han 1930—41.
(in 1 000s of tons and millions of marks) — *(1 000 tonnia ja milj. mk)*

	1930		1931		1932		1933	
	tons *tonnia*	marks *mk*	tons *tonnia*	marks *mk*	tons *tonnia*	marks *mk*	tons *tonnia*	marks *mk*
Plywood — *Vaneeria*	0.06	0.2	—	—	—	—	—	—
Other woodgoods — *Muuta puutavaraa*	—	0.2	—	0.3	—	0.2	—	0.2
Mechanical pulp — *Puuhioketta*	14.8	15.1	21.1	19.1	23.4	21.7	22.2	18.4
Sulphite pulp — *Sulfiittiselluloosaa*	107.9	206.4	122.5	195.5	120.6	205.5	146.8	241.1
Sulphate pulp — *Sulfaattiselluloosaa*	34.3	59.0	61.9	70.4	51.9	83.4	50.7	65.8
Newsprint — *Sanomalehtipaperia*	37.1	80.9	42.0	83.5	42.6	90.2	49.5	86.9
Wrapping paper — *Käärepaperia*	—	—	0.1	0.1	0.7	1.8	1.5	3.7
Board — *Pahvia ja kartonkia*	4.0	8.1	3.7	6.2	2.8	4.3	2.5	4.2
Other paper — *Muuta paperia*	0.3	3.8	0.1	1.8	0.3	2.2	0.7	3.9
	198.5	373.5	251.4	376.9	242.3	409.3	273.9	424.2
	1934		1935		1936		1937	
Plywood — *Vaneeria*	—	—	—	—	0.1	0.4	0.2	0.8
Other woodgoods — *Muuta puutavaraa*	—	0.3	—	0.5	—	0.5	—	0.8
Mechanical pulp — *Puuhioketta*	15.8	14.1	21.2	15.9	27.4	21.6	19.1	19.3
Sulphite pulp — *Sulfiittiselluloosaa*	141.2	230.1	175.1	296.4	158.9	268.5	157.0	277.7
Sulphate pulp — *Sulfaattiselluloosaa*	56.6	70.4	64.0	87.4	97.1	140.2	84.3	143.0
Newsprint — *Sanomalehtipaperia*	52.3	79.4	70.7	103.4	117.2	173.0	143.2	218.7
Wrapping paper — *Käärepaperia*	1.8	4.4	4.7	11.2	6.9	16.9	5.2	13.2
Board — *Pahvia ja kartonkia*	2.9	4.5	3.9	6.5	5.0	8.0	7.5	12.1
Other paper — *Muuta paperia*	1.2	5.4	1.0	6.9	0.8	6.9	0.9	7.1
	271.8	408.6	340.6	528.2	413.4	635.9	417.4	692.7
	1938		1939		1940		1941	
Plywood — *Vaneeria*	0.2	0.6	0.3	0.8	0.2	3.4	—	—
Other woodgoods — *Muuta puutavaraa*	—	0.8	1.1	1.7	—	0.3	—	0.3
Mechanical pulp — *Puuhioketta*	17.6	16.6	22.8	19.2	0.2	0.2	—	—
Sulphite pulp — *Sulfiittiselluloosaa*	156.3	293.2	195.7	351.4	18.5	40.3	3.7	8.8
Sulphate pulp — *Sulfaattiselluloosaa*	72.9	117.3	150.8	197.0	14.9	28.8	4.8	12.7
Newsprint — *Sanomalehtipaperia*	133.8	250.1	170.8	313.0	19.2	36.7	2.0	3.8
Wrapping paper — *Käärepaperia*	7.4	21.5	7.6	23.5	2.4	8.1	0.7	1.9
Board — *Pahvia ja kartonkia*	5.3	9.0	7.0	11.8	3.4	9.0	1.6	3.0
Other paper — *Muuta paperia*	1.6	9.2	0.9	7.1	0.2	8.5	—	2.3
	395.1	718.3	557.0	925.5	59.0	135.3	12.8	32.8

As is seen from table 8, sulphite pulp has always been the most important article of export. Table 9 gives an idea of the importance of the American market compared to the total exports of sulphite pulp from Finland.

Table 9. Finland's exports of sulphite pulp.
Suomen sulfiittiselluloosan vienti.

	To the USA — *USA:han*		To other countries — *Muihin maihin*	
	1 000 tons dry weight *1 000 tonnia kuivaa painoa*	million marks *milj. mk*	1 000 tons dry weight *1 000 tonnia kuivaa painoa*	million marks *milj. mk*
1929	111.9	213.3	255.9	518.9
1930	107.9	206.4	250.2	500.3
1931	122.5	195.5	301.5	497.2
1932	120.6	205.5	441.4	661.3
1933	146.8	241.1	446.5	664.5
1934	141.2	230.1	456.0	737.2
1935	175.1	296.4	513.6	810.5
1936	158.9	268.5	598.7	936.6
1937	157.0	277.7	666.5	1 202.0
1938	156.3	293.2	513.4	1 019.4
1939	195.7	351.4	498.5	873.9
1940	18.5	40.3	137.8	324.7
1941	3.7	8.8	270.2	738.3

The shippings of sulphite pulp steadily increased during all the 1920:ies and amounted on an average to 47 per cent of the total of exported products of the forest industries. After the top figure of 112 000 tons in 1929, the exports declined somewhat when the great depression began, but already in 1931 a new increase of the volume could be noted. Between 1931 and 1935 the figures have developed by fits and starts, the result of a further extended export in one year being counterbalanced by a smaller reverse in the following year. The great increase of 33 000 tons between 1934 and 1935 must be considered against the background of the economic stabilization in the USA and the advantageous influence of the Finnish-American consular agreement. During the following years a decline in sulphite exports could not be avoided in spite of great endeavours from the side of Finland, although the exports to other countries showed increasing values. This unfavourable turn was caused by the onward march of sulphate pulp in the USA.[1] The record figures of 1939 in their turn depended altogether on the war tide of the market which entailed an enormous increase in the demand for all kinds of pulp. The exports of sulphite pulp during the 1930:ies amounted to 44 per cent of the total amount of exported products of the forest industries.

Sulphite pulp has been shipped partly as dry pulp containing only about 10 per cent of water and partly as wet pulp containing about 50 per cent of water. A more detailed analysis of the distribution between wet and dry pulp shows the following result.

[1] Compare Berättelse över Finska Cellulosaföreningens verksamhet 1937 p. 3.

Table 10. Finland's exports of sulphite pulp to the USA.
Suomen sulfiittiselluloosan vienti USA:han.

	Wet sulphite — *Märkää*		Dry sulphite — *Kuivaa*	
	1 000 tons wet weight *1 000 tonnia märkää painoa*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1929	23.3	23.1	100.3	190.3
1930	28.7	27.6	93.6	178.8
1931	18.2	14.6	113.4	180.9
1932	18.8	10.9	111.3	194.6
1933	13.4	10.3	140.1	230.8
1934	14.9	11.3	133.8	218.8
1935	13.7	12.8	168.3	283.6
1936	16.7	13.7	150.6	254.9
1937	15.9	13.8	149.0	263.8
1938	19.4	16.4	146.7	276.8
1939	22.4	21.0	183.9	330.4

Most of the sulphite pulp that has been exported to the USA has, as is shown, been ordinary dry pulp, which is only natural when one takes the high costs of transport into consideration. Between ten and twenty per cent of wet pulp has, however, been exported annually. This rather curious circumstance, that Finland annually exports thousands of tons of water to the USA, is due to the fact that wet pulp is needed for the production of glassine and other kinds of paper with greaseproof character. When dry pulp is moistened anew, the fibers do not regain exactly the same qualities as those of the wet pulp. The decline in the proportion of wet pulp in exports towards the end of the 1930:ies, which is shown by the table, is probably due to increased efforts in the USA to produce the finer kinds of paper domestically. The question concerning wet or dry pulp is besides, one of freight and transportation, to which we shall return below.[1]

In order, finally, to obtain an idea as to how the exports of sulphite pulp were distributed among the different principal grades the following table has been made, giving the exports from the mills belonging to the Finnish Cellulose Association.

The growing interest in the USA for bleached sulphite is as obvious as could be desired from the above figures, while sulphate pulp was displaced more and more by unbleached sulphite.[2] Within a decade the exports of bleached sulphite thus increased from 6 000 to 50 000 tons, or by more than 800 per cent. The exports of strong sulphite, on the other hand, remained rather constant, if we overlook the fluctuations purely dependent on the tide of the market.

The development of pulp prices during the 1930:ies was very unfavourable, as already pointed out in the market survey. A scrutiny of the figures given in table 9 shows that there was practically no increase of value until 1935, in spite of a simultaneous and not insignificant increase in volume. For instance in 1931, when

[1] See p. 65.
[2] Compare Amerika ser optimistiskt på sulfatmarknaden, 1936 p. 760.

Table 11. Finland's exports of sulphite pulp to the USA.
Suomen sulfiittiselluloosan vienti USA:han.
(1 000 tons dry weight) — *(1 000 tonnia kuivaa painoa)*

	Bleached sulphite *Valkaistua*	Easy bleaching sulphite *Helposti valkenevaa*	Strong sulphite *Valkaisematonta*
1929	1.5	4.3	102.1
1930	6.1	2.0	94.3
1931	9.3	1.7	94.8
1932	9.1	0.1	76.9
1933	13.8	—	84.0
1934	14.7	0.2	78.2
1935	17.6	1.6	102.4
1936	18.8	3.5	82.2
1937	28.3	1.5	74.1
1938	33.8	3.4	85.2
1939	49.9	8.5	94.9
1940	4.2	1.0	13.3
1941	0.2	—	2.6

the exports increased by 15 000 tons compared to the previous year, the economic result, nevertheless, showed a decrease in value of practically 11 million marks. The development after 1935 was, however, considerably more favourable. The question as to how the economic result on the American market was in proportion to the prices obtained in other countries is of a great interest. If, to begin with, we divide the value and the quantity figures by one another, we obtain the following table.

Table 12. The value of Finland's exports of sulphite pulp in marks per ton.
Suomen sulfiittiselluloosan viennin arvo (mk/tonni).

	To the USA *USA:han*	To other countries *Muihin maihin*
1929	1 906	2 028
1930	1 913	2 000
1931	1 596	1 649
1932	1 704	1 498
1933	1 642	1 488
1934	1 630	1 617
1935	1 693	1 578
1936	1 690	1 564
1937	1 769	1 681
1938	1 876	1 986
1939	1 796	1 753
1940	2 178	2 356
1941	2 378	2 732

The values indicate that the net price obtained on the American market has in normal times generally speaking been somewhat better than that in other countries. It was only during the year of depression 1929—31 that the case was reversed, which is explicable when one takes into consideration the fact that the economic reverse originated in the USA and struck that country with particular force. From the figures of 1940 and 1941 it is evident how much more moderate the rise of prices was on the American market than in Europe, where the increase depended on the war tide of the market.

On account of several different factors it is, nevertheless, very risky to draw any binding conclusions from the above figures. The exports of sulphite pulp consisted, among other things, of a great number of different grades, which fetched very different prices. For instance in 1938 the Finnish Cellulose Association quoted 2 504: 45 for prime bleached sulphite, while the average price of wet knot-sulphite was 559: 39.[1] It is quite sure that the exports to South America did not consist of such high grades as was the case with the exports to the USA.[2] Further, the fob values in Finnish ports according to the foreign trade statistics have not on account of the frequent contract conversions by any means always been obtained. As a further moment of uncertainty, the different proportionate distribution of wet and dry pulp, which show a considerable difference in price, may be mentioned. Also freight and general costs vary considerably in different markets. All the facts given here, the influence of which can scarcely be calculated, made the value of the conclusions to be drawn from the above figures more than problematic.

Very valuable material, however, was to be found in the archives of the Finnish Cellulose Association. In order to neutralize as far as possible the above mentioned moment of uncertainty, the net average prices that had in fact been attained on the USA market were calculated for certain determined grades and the corresponding figures on other principal markets. The statistics of the Finnish Cellulose Association, it is true, are based on the invoicing, while certain cargoes at the end of the year had in fact not yet left the country, but in statistics stretching over a series of years this slight discrepancy should cancel out. Prime bleached sulphite and prime strong unbleached sulphite have been the most important grades on the USA market, as is shown in table 11. The markets of England and South America were chosen for comparison, since both are of great significance for the Finnish pulp exports. The following tables have been based on prices actually obtained, costs and freight having been deducted. The quantities sold have also been included in order to be able to judge to what degree the prices quoted have been for only smaller deliveries without any influence on the formation of prices.

Looking over the figures over page we find that prime bleached dry sulphite shows the greatest irregularity. It is true that the USA price in 1935 was higher than the South American but appreciably lower than the English. In 1936 and 1937 the USA prices were the highest, but in 1938 and 1939 they were again much below the English as well as the South American ones. As to prime bleached wet sulphite, the prices in the USA have been decidedly higher than those in England, but as is shown by the table it has been a question here only of small sample lots without any influence

[1] Compare Berättelse över Finska Cellulosaföreningens verksamhet 1938 p. 4.
[2] Compare the items given in the market survey on p. 16.

Table 13. Net average prices received for Finnish exports of prime bleached sulphite, dry (in marks per ton).
Suomesta viedyn I luokan valkaistun kuivan sulfiittiselluloosan keskimääräinen nettohinta (mk/tonni).

	USA — *USA*		England — *Englanti*		South America *Etelä-Amerikka*	
	tons — *tonnia*	marks — *mk*	tons — *tonnia*	marks — *mk*	tons — *tonnia*	marks — *mk*
1935	7 533	2 130	30 194	2 227	4 452	2 009
1936	11 739	2 155	40 526	1 997	8 013	2 153
1937	24 001	2 392	41 247	2 000	11 676	2 296
1938	20 439	2 274	39 244	2 641	6 363	2 802
1939	28 987	2 171	35 215	2 256	11 625	2 234

Net average prices received for Finnish exports of prime bleached sulphite, wet.
(in marks per ton)
Suomesta viedyn I luokan valkaistun märän sulfiittiselluloosan keskimääräinen nettohinta (mk/tonni).

1935	50	2 020	57	1 965	—	—
1938	6	2 667	272	1 938	—	—

Net average prices received for Finnish exports of prime strong unbleached sulphite, dry.
(in marks per ton)
Suomesta viedyn I luokan kovan valkaisemattoman kuivan sulfiittiselluloosan keskimääräinen nettohinta (mk/tonni).

1935	86 627	1 612	63 735	1 384	4 684	1 280
1936	63 670	1 617	97 378	1 369	9 500	1 475
1937	62 361	1 687	84 319	1 508	10 886	1 515
1938	74 217	1 728	81 759	1 842	4 995	1 688
1939	77 195	1 665	48 925	1 731	8 363	1 468

Net average prices received for Finnish exports of prime strong unbleached sulphite, wet.
(in marks per ton)
Suomesta viedyn I luokan kovan valkaisemattoman märän sulfiittiselluloosan keskimääräinen nettohinta (mk/tonni).

1935	7 479	1 580	19 231	1 196	—	—
1936	8 944	1 531	19 120	1 195	—	—
1937	9 735	1 540	14 163	1 255	—	—
1938	10 237	1 586	11 222	1 491	—	—
1939	12 032	1 505	5 919	1 575	—	—

Net average prices received for Finnish exports of prime extra strong unbleached sulphite, dry.
(in marks per ton)
Suomesta viedyn I luokan erittäin kovan valkaisemattoman kuivan sulfiittiselluloosan keskimääräinen nettohinta (mk/tonni).

1935	5 151	1 521	36 591	1 329	—	—
1936	2 930	1 651	32 749	1 324	19	1 368
1937	158	1 190	39 248	1 360	50	1 560
1938	—	—	42 876	1 443	—	—
1939	26	1 423	48 549	1 534	1 500	1 461

on the real price tendency. The prime strong unbleached sulphite shows a somewhat more regular development. The prices in the USA have always been above the South American ones, while the English prices in 1938 and 1939 show somewhat higher figures. Also the wet strong unbleached sulphite has, except in 1939, been better paid in the USA than in England. The extra strong unbleached sulphite

shows more undecided values but the quantities are rather small as shown by the table, so that the values must be taken with a good deal of reservation.

At first glance there does not seem to be any uniform tendency to be noticed in these tables. A closer collocation, nevertheless indicates that the net average prices have been higher in the USA during 1935—37 than in England and in South America, while during 1938—39 the USA prices have been clearly below the English and in certain cases below the South American ones. Differences in sales policies probably are the explanation of this phenomenon. During 1938—39, England thus closed many new contracts. Hereby quite a number of old contracts were converted, the prices of which were raised on condition that new contracts should be closed at more liberal prices. Particularly after the outbreak of the war in 1939 England subscribed immediately at high prices for practically all the pulp at disposal, while the price reaction in the USA was at first very moderate, as has been said above. Thus in 1939 the Finnish chemical pulp products had been sold out to such an extent that no consignments to the USA were possible, although it would have been possible to place them at advantageous prices during the rising tide of the market, thus raising the USA average price for the year. The quantities shipped were lots that had been contracted long before at the prices reigning at that time. As to the South American prices, these were much dependent on the tide of the market, so that the boom of 1938—39 was particularly noticeable. The time of delivery was short, and there were no long-term contracts. The actual prices of the day are best derived from the South American quotations, since the consumers, placed face to face with a war menace, tried to increase their stocks at any price. Seen against the background of these facts, the rather curious development of prices during 1938—39 is naturally explained.

Further, it may be mentioned that the pulp shipped to the USA was used for higher grades of paper and first-grade paperboard, while the exports, for instance, to England consisted of newsprint and less good wrapping. On account of this, the grades, even in the same groups, were somewhat different. Generally speaking, an accurate graduation was not carried out until 1937 and was further specified in 1939. The calculated net average price of prime strong unbleached sulphite thus falls into the following sub-components.

	1937	1939
Prime strong unbleached sulphite.	Unbleached sulphite, bleachable.	Group 4. Unbleached sulphite, bleachable USA.
		Group 3. Unbleached sulphite, bleachable other.
	Unbleached sulphite, ordinary strong.	Group 2. Unbleached sulphite, ordinary strong.

The bleachable USA grade for instance had a buyer with altogether special requirements as to pureness, which yielded a higher price. As a rule, the bleached sulphite grades that went to England were, however, as good as the USA ones. The above mentioned ought not to have had any decisive influence on the general price tendency.

As a summary of the calculations given in the tables 12 and 13, we consider it possible to establish that the economic result of Finland's sulphite exports to the USA in normal years with a quiet development of the tide of the market has been more advantageous than those to other principal markets.

The exports of sulphate pulp also show large figures of volume as well as of value, without, however being able to compete as to volume even approximately with the sulphite exports.

Table 14. Finland's exports of sulphate pulp.
Suomen sulfaattiselluloosan vienti.

	To the USA — *USA:han*		To other countries — *Muihin maihin*	
	1 000 tons dry weight *1 000 tonnia kuivaa painoa*	million marks *milj. mk*	1 000 tons dry weight *1 000 tonnia kuivaa painoa*	million marks *milj. mk*
1929	34.8	72.1	81.4	170.9
1930	34.3	59.0	83.4	150.7
1931	61.9	70.4	142.4	191.1
1932	51.9	83.4	142.9	200.7
1933	50.7	65.8	153.9	209.8
1934	56.6	70.4	148.3	208.3
1935	64.0	87.4	171.2	233.8
1936	97.1	140.2	226.1	315.2
1937	84.3	143.0	271.4	453.3
1938	72.9	117.3	278.8	500.5
1939	150.8	197.0	247.9	359.1
1940	14.9	28.8	81.8	146.8
1941	4.8	12.7	210.4	417.2

The volume of the sulphate exports does not seem to have been influenced in any marked degree by the depression. The exports in 1931 with their 62 000 tons show, on the contrary, nearly a doubling of the quantity compared with the figures of 1930. This remarkable circumstance must be considered against the background of the difficulties that the sulphate industry already had to struggle with towards the end of the 1920:ies on account of the increased production in Sweden and in the USA, so that the exports were thus not abnormally increased during the peak years of the high tide of the market.[1] In spite of a smaller reverse during the following year, the exports already in 1936 touched 100 000 tons, but in 1937 and 1938 anew showed declining figures, which partly depended on the domestic industry in the Southern states of the USA having begun to displace the imported sulphate pulp on the market.[2] The figures of 1939 are in a class by themselves.

The distribution of the sulphate exports on wet and on dry pulp is seen from the collocation below.

[1] Compare Berättelse över Finska Cellulosaföreningens verksamhet 1929 p. 3.
[2] Compare the market survey p. 21 and table 39 p. 83.

Table 15. Finland's exports of sulphate pulp to the USA.
Suomen sulfaattiselluloosan vienti USA:han.

	Wet pulp — *Märkää*		Dry pulp — *Kuivaa*	
	1 000 tons wet weight *1 000 tonnia märkää painoa*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1929	—	—	34.8	72.1
1930	0.4	0.4	34.1	58.6
1931	2.1	1.2	60.9	69.2
1932	1.5	1.2	51.1	82.2
1933	2.0	1.4	49.7	64.4
1934	1.7	1.0	55.7	69.4
1935	1.6	1.3	63.3	86.1
1936	2.1	1.6	96.1	138.7
1937	2.6	2.0	83.0	141.0
1938	4.9	3.3	70.5	114.1
1939	3.7	2.7	148.9	194.3

During the 1920:ies practically only dry sulphate pulp was exported to the USA. Also later on, the share of the wet sulphate pulp was insignificant, as a rule only about two per cent. The above figures, however, indicate a certain proportionate increase. Sulph~~ate~~ pulp is used to a lesser extent for finer kinds of paper, so that this circumstance is only natural, even if the development chiefly depends on the freight, since the wet sulphate pulp practically fetched the same gross weight price as the dry one.

The exports were distributed on the principal grades according to the following table.

Table 16. Finland's exports of sulphate pulp to the USA.
Suomen sulfaattiselluloosan vienti USA:han.

(1 000 tons dry weight) — *(1 000 tonnia kuivaa painoa)*

	Bleached sulphate *Valkaistua*	Easy bleaching sulphate *Helposti valkenevaa*	Strong sulphate *Valkaisematonta*
1929	—	0.03	28.6
1930	—	0.5	30.2
1931	—	0.7	62.9
1932	—	0.2	41.7
1933	4.5	0.2	46.7
1934	5.0	0.02	53.8
1935	6.4	0.8	58.7
1936	11.6	5.1	75.3
1937	13.4	3.4	67.1
1938	5.4	0.02	66.6
1939	34.1	0.6	117.1
1940	2.0	—	14.9
1941	0.3	0.02	5.5

Bleached sulphate is, as is seen, a rather new article in which great hopes were placed. The exports in 1933 amounted to 4 500 tons and in 1939 it was already possible to place 34 000 tons on the American market. Only insignificant quantities of easy bleaching sulphate have been exported. Strong sulphate constituted the chief part of the sulphate exports.

Sulphate prices were also 1929 abnormally high on account of the general desire to speculate during the high tide of the market. Consequently the reverse was so much the more violent. Although there was no decline of volume in 1930, the value — as seen by table 14 — nevertheless, declined by 13 million marks. When the depression had been overcome, a certain recovery began to make itself felt towards the end of the 1930:ies.

The economic result of the sulphate exports calculated on the basis of official foreign trade statistics was as follows.

Table 17. The value of Finland's exports of sulphate pulp in marks per ton.
Suomen sulfaattiselluloosan viennin arvo (mk/tonni).

	To the USA *USA:han*	To other countries *Muihin maihin*
1929	2 072	2 100
1930	1 720	1 807
1931	1 137	1 342
1932	1 607	1 404
1933	1 298	1 363
1934	1 244	1 405
1935	1 366	1 366
1936	1 174	1 394
1937	1 696	1 670
1938	1 609	1 795
1939	1 306	1 449
1940	1 933	1 795
1941	2 646	1 983

According to these values the price has almost throughout been lower in the USA than in other countries. The years 1932 and 1937 were the only exceptions. Material obtained for comparison from the archives of the Finnish Cellulose Association gave the following values (table 18).

The price movement of the prime strong unbleached sulphate shows in broad lines the same tendencies of development as that of sulphite pulp. During 1936—37 the USA price was higher than the English one, while the state of things in 1938—39 was the opposite. As to the South American market, the prices already in 1935—36 seem to have been on a higher level than the USA ones, but since the exported quantities were insignificant, no positive conclusions can be drawn. The net average price on wet sulphate pulp has clearly been below that which was obtained in England.

Table 18. Net average prices received for Finnish exports of prime strong unbleached sulphate, dry.
Suomesta viedyn I luokan kovan valkaisemattoman kuivan sulfaattiselluloosan keskimääräinen nettohinta (mk/tonni).

	USA — *USA*		England — *Englanti*		South America *Etelä-Amerikka*	
	tons — *tonnia*	marks — *mk*	tons — *tonnia*	marks — *mk*	tons — *tonnia*	marks — *mk*
1935	47 995	1 287	21 401	1 321	26	1 346
1936	63 920	1 398	40 072	1 334	859	1 672
1937	55 551	1 542	54 455	1 394	—	—
1938	52 102	1 508	68 629	1 620	2 331	1 858
1939	90 167	1 189	68 023	1 415	4 378	1 188
Net average prices received for Finnish exports of prime strong unbleached sulphate, wet. *Suomesta viedyn I luokan kovan valkaisemattoman märän sulfaattiselluloosan keskimääräinen nettohinta (mk/tonni).*						
1935	601	1 273	30 715	1 285	—	—
1936	316	1 269	45 779	1 275	—	—
1937	594	1 306	57 241	1 320	—	—
1938	2 240	1 334	65 620	1 533	—	—
1939	1 361	1 050	33 514	1 355	—	—

The low prices of sulphate shown by the tables 17 and 18 have been caused by the overwhelming development of USA's own sulphate industry. As to the low net profits on wet sulphate, the difference in freight should be noticed. A comparison of the gross prices on respective markets shows that the USA quotations have in fact somewhat exceeded the English ones.[1]

Summarizing the development of sulphate prices, it can be established that the somewhat higher net prices fetched in the USA in the middle of the 1930:ies were lost later on on account of the building up in the USA of a domestic sulphate industry. It is probable that this tendency towards lower sulphate prices will assert itself also in the future, at least as concerns standard qualities.

The exports of mechanical pulp have always been insignificant compared to those of chemical pulp. Since the USA and Canada are practically self supporting in point of mechanical pulp, sales are closed chiefly when low water levels close their mills.[2] The following values, which, after all, represent quite considerable amounts, show the tendency (table 19).

During the depression, the exports of mechanical pulp could well be maintained in quantity, even if the economic result was less brilliant. In 1936 the exports culminated with 30 000 tons, whereupon a rather strong reverse set in during the latter part of the 1930:ies.

When Russia for political reasons stopped buying mechanical pulp from Finland in 1931, sales had to be concentrated on the USA and on South America,

[1] Compare further p. 65.
[2] Compare Hylin 1930 p. 69.

Table 19. Finland's exports of mechanical pulp.
Suomen puuhiokkeen vienti.

	To the USA — *USA:han*		To other countries — *Muihin maihin*	
	1 000 tons dry weight *1 000 tonnia kuivaa painoa*	million marks *milj. mk*	1 000 tons dry weight *1 000 tonnia kuivaa painoa*	million marks *milj. mk*
1929	10.5	10.7	150.2	145.2
1930	14.8	15.1	142.6	145.1
1931	21.1	19.1	116.3	132.0
1932	23.4	21.7	156.9	120.5
1933	22.2	18.4	185.7	137.3
1934	15.8	14.1	233.1	190.6
1935	25.7	19.8	264.1	201.2
1936	30.5	24.2	247.1	194.2
1937	20.7	21.1	269.9	250.0
1938	18.2	17.3	206.3	226.7
1939	23.3	19.6	182.0	168.5
1940	0.2	0.2	12.6	15.6
1941	—	—	27.5	36.4

a change it was possible to realize thanks to the rising rate of exchange of the dollar. So long as the Fenno- Skandia trust convention was in force, until the beginning of 1932, the declining tendency of the price curve could to a certain extent be controlled, but later on the economic result became less good in regard to the USA than to other countries.

The distribution as to wet and dry mechanical pulp was as follows.

Table 20. Finland's exports of mechanical pulp to the USA.
Suomen puuhiokkeen vienti USA:han.

	Wet pulp — *Märkää*		Dry pulp — *Kuivaa*	
	1 000 tons wet weight *1 000 tonnia märkää painoa*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1929	0.4	0.2	10.3	10.5
1930	1.3	0.6	14.1	14.5
1931	1.0	0.4	20.6	18.7
1932	2.4	1.2	22.2	20.6
1933	0.3	0.1	22.0	18.3
1934	—	—	15.8	14.1
1935	3.6	1.4	19.4	14.5
1936	0.2	0.1	27.3	21.5
1937	3.2	1.3	17.5	18.0
1938	1.2	0.6	17.1	16.0
1939	2.2	0.9	21.6	18.4

The transportation of wet mechanical pulp is difficult and the chief part of the exports consisted of dry mechanical pulp as is seen by the table. Dry pulp is sold at

short sight and its price, therefore, has at times been even lower than that of the wet mechanical pulp.[1]

In order to obtain an idea of the qualitative distribution the following table has been collocated embracing the exports of the mills that have joined the Finnish Woodpulp and Board Union.

Table 21. Finland's exports of mechanical pulp to the USA.
Suomen puuhiokkeen vienti USA:han.
(in tons dry weight) — *(tonnia kuivaa painoa)*

	Wet white *Märkää valkoista*	Dry white *Kuivaa valkoista*	Wet brown *Märkää ruskeata*	Dry brown *Kuivaa ruskeata*	Sundries *Sekalaista*
1929	159	4 015	24	—	—
1930	110	9 780	—	—	—
1931	560	14 149	—	—	—
1932	1 230	17 215	—	—	—
1933	98	16 455	—	—	445
1934	21	9 519	5	55	51
1935	1 375	17 348	—	23	98
1936	10	23 412	—	—	—
1937	1 812	17 143	—	26	23
1938	689	18 113	—	—	—
1939	1 380	19 389	—	—	—
1940	—	100	—	—	—

Besides dry, white mechanical pulp the exports have consisted only of small quantities of wet white pulp. Sales of other grades have been rare.

Board is such a special article that there is reason for a more detailed scrutiny of its exports in spite of the rather modest amounts in question.

Table 22. Finland's exports of board.
Suomen pahvin ja kartongin vienti.

	To the USA — *USA:han*		To other countries — *Muihin maihin*	
	1 000 tons *1 000 tonnia*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1929	4.7	8.8	49.8	91.5
1930	4.0	8.1	45.1	86.5
1931	3.7	6.2	50.6	86.7
1932	2.8	4.3	59.5	111.4
1933	2.5	4.2	64.5	122.0
1934	2.9	4.5	71.2	139.1
1935	3.9	6.5	79.1	147.1
1936	5.0	8.0	90.1	167.6
1937	7.5	12.1	112.8	224.4
1938	5.3	9.0	95.3	200.2
1939	7.0	11.8	106.4	217.6
1940	3.4	9.0	35.7	96.0
1941	1.6	3.0	70.3	227.9

[1] Compare Sourander and Solitander 1943 p. 212.

The exports of board, which were rather well developed in the 1920:ies, diminished a great deal in the beginning of the 1930:ies. In 1933 the exports had declined to 2 500 tons, or by 47 per cent as compared to 1929. At the same time the value had declined by more than 50 per cent. This development seems to have depended partly on the severe depression in America, followed by the fall in the rate of exchange of the dollar, and partly on the American customs policy. A less successful sales policy can also be mentioned as a concomitant cause. The agent in New York sold Finnish mechanical pulp to be refined by American factories, and thus indirectly competed with the sale of the Finnish board.[1] By the commercial agreement with Sweden in 1935 the USA lowered the customs duty on ordinary board qualities to ten per cent, which reduction was automatically shared by Finland as most favoured nation. As the Finnish Woodpulp and Board Union simultaneously reorganized the New York agency, the exports again began to show satisfactory figures.[2] The American market, nevertheless, did not acquire any greater importance; towards the end of the 1930:ies it amounted to about six per cent of the total exports of board.

According to the Finnish Woodpulp and Board Union's statistics the quality chiefly exported has been white wood pulp board. The test-board grades had for a long time already been manufactured in the USA too cheaply for any competition from Finland to be possible, and the customs duty for this grade had, besides, been raised in 1923 from 15 to 20 per cent. The sale, therefore, had to be centered in the wood pulp board grades.

As to the economic result, one notices that the USA market seems to have been rather unfavourable compared to other markets. This depended on the fact that the powerful domestic board industry in the USA dictated the prices without any possibility for Finland to influence the development. The American industry on the other hand has to take into consideration the fact that other kinds of packing material would come in, if the prices were raised imprudently. Towards the end of the 1930:ies the European prices, besides, were somewhat more inclined to the tide of the market. It was only thanks to the average price system for white pulp board practised by the Finnish Woodpulp and Board Union that the exports could be maintained at all. As an illustration it may be mentioned that in the autumn of 1940, when the price level of white pulp board was about 3 200: — net fob, only 1 870: — net franco Rovaniemi was paid in the USA.[3]

According to foreign trade statistics the board exports showed the following values in marks per ton.

---

[1] Compare Sourander and Solitander 1943 p. 221.

[2] The Finnish Woodpulp and Board Union at the same time placed a representative of their own at the agency.

[3] Sourander and Solitander 1943 p. 244.

Table 23. Value of Finland's exports of board in marks per ton.
Suomen pahvin ja kartongin viennin arvo (mk/tonni).

	To the USA *USA:han*	To other countries *Muihin maihin*
1929	1 872	1 837
1930	2 025	1 918
1931	1 676	1 713
1932	1 536	1 872
1933	1 680	1 891
1934	1 552	1 954
1935	1 667	1 860
1936	1 600	1 860
1937	1 613	1 989
1938	1 698	2 101
1939	1 686	2 045
1940	2 647	2 689
1941	1 875	3 242

A closer scrutiny of the invoicing of the Finnish Woodpulp and Board Union gave the following average prices in the USA compared to the average prices of the total invoicing of white wood pulp board.

Table 24. Average prices received for Finnish exports of white wood pulp board.
Suomesta viedyn valkoisen puupahvin keskimääräinen hinta.
(in marks per ton) — *(mk/tonni)*

	USA (on dock d.p.) *USA*	Total exports (fob port of export) *Koko vienti*	Difference of price *Hintaero*
1929	2 588	1 775[1]	813
1930	2 784	1 710[1]	1 074
1931	2 577	1 609[1]	968
1932	3 574	1 636	1 938
1933	3 047	1 526	1 521
1934	3 012	1 553	1 459
1935	2 112	1 537	575
1936	2 705	1 543	1 162
1937	2 641	1 715	926
1938	2 626	2 157	469
1939	2 737	1 839	898

Freight and sales costs as well as customs duties are included in the USA average prices.[2] It is impossible to calculate these exactly, so that in this case we have to content ourselves with a comparative calculation in order to find the general price tendency. A survey of the difference between the above average prices in the USA and those for total exports shows a decrease towards the middle of the 1930:ies. This indicates a decline of the American prices in proportion to those of other

---

[1] Franco port of export, the lading costs at the port not included. The difference is slight.

[2] The freight amounted to about $ 8.— a ton. Sales costs and customs duty amounted to about 16 per cent of the net value.

markets. It is difficult to say to what extent the lowering in 1935 of the customs tariff influenced this.

Next after pulp, newsprint was the most important article for export during all of the 1930:ies. The following quantities were exported.

Table 25. Finland's exports of newsprint.
Suomen sanomalehtipaperin vienti.

	To the USA *USA:han*		To other countries *Muihin maihin*	
	1 000 tons *1 000 tonnia*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1929	30.6	68.1	143.1	330.7
1930	37.1	80.9	150.7	332.6
1931	42.0	83.5	148.9	294.2
1932	42.6	90.2	158.3	303.7
1933	49.5	86.9	176.2	303.0
1934	52.3	79.4	208.1	327.0
1935	70.7	103.4	209.7	323.3
1936	117.2	173.0	224.9	342.6
1937	143.2	218.7	239.2	371.2
1938	133.8	250.1	224.1	446.4
1939	170.8	313.0	251.6	460.8
1940	19.2	36.7	41.9	75.3
1941	2.0	3.8	49.0	100.9

A comparison with table 14 on p. 42 concerning the exports of sulphate shows that the newsprint exports had a greater value during the whole of the 1930:ies, but that they exceeded the sulphate exports also in quantity only from 1935 on. The volume of the newsprint exports increased slowly during the years of depression, but from 1935 on the increase was very considerable, and the USA market received towards the end of the 1930:ies nearly 40 per cent of Finland's entire exports of newsprint. The reverse at the turn of the tide in 1938 was insignificant in comparison with the decline that Canada had to suffer on the USA market. Canada's exports of newsprint to the USA declined the said year by not less than 35.3 per cent, or from 2.6 to 1.6 million tons. This fact indicates that the Finnish newsprint had succeeded in gaining a very strong position in the USA. The fact that the imports of the Finnish newsprint to the USA was allowed to continue freely, while all kinds of restrictions were introduced in most of the other countries, was of great importance. The decline of the United States' own production facilitated the extension of the Finnish exports.

As was already brought forth in the market survey the price development was very disadvantageous. A summary of the USA domestic market prices shows the following figures.[1]

[1] According to material from the archives of the Finnish Paper Mills' Association. Compare also Guthrie 1941 p. 248.

Table 26. The domestic market price of newsprint in the USA.
Sanomalehtipaperin kotimarkkinahinta USA:ssa.

(per 2 000 lbs. fob New York City) — *(2 000 lbs. fob kohti New Yorkissa)*

	$		$
1921	137.60	1933	42.50
1922	77.60	1934	40.—
1923	81.80	1935	40.—
1924	79.80	1936	41.—
1925	76.80	1937	42.50
1926	71.80	1938	49.—
1927	71.80	1939	50.—
1928	67.—	1940	49.50
1929	62.—	1941	49.75
1930	62.—	1942	50.—
1931	57.—	1943	54.—
1932	49.—	1944	62.—

The dissolving of the Newsprint Institute of Canada and the ensuing price war in North America contributed to the fall of prices in 1931.[1] The final reverse of the price movement in 1936 was caused by an increased use of newsprint in large spheres of consumption, while the extensions in the newsprint industry since 1930 were insignificant. The fear of the radio as competitor proved to be exaggerated.

On account of the long and irregular terms of delivery, the European price of newsprint has always remained within a certain margin under the American one. Those newspaper publishers who imported European newsprint had to keep large reserves in stock, which entailed extra costs of capital investment, insurance, stocks, etc. This difference of price, nevertheless, in the 1930:ies caused repeated sharp attacks from the side of American producers.[2]

According to foreign trade statistics the export values were as follows.

Table 27. The value of Finland's exports of newsprint in marks per ton.
Suomesta viedyn sanomalehtipaperin arvo (mk/tonni).

	To the USA *USA:han*	To other countries *Muihin maihin*
1929	2 225	2 311
1930	2 181	2 207
1931	1 988	1 976
1932	2 117	1 919
1933	1 756	1 720
1934	1 518	1 571
1935	1 463	1 542
1936	1 476	1 523
1937	1 527	1 552
1938	1 869	1 992
1939	1 832	1 831
1940	1 911	1 797
1941	1 900	2 059

[1] Compare Sibley 1933 p. 33.
[2] Compare p. 72.

According to the material from the archives of The Finnish Paper Mills' Association, the following average price was obtained for newsprint in rolls, as compared to some other principal markets.[1]

Table 28. Average price of newsprint in rolls of 50—52 gr/m².
(in marks per ton)
Suomesta viedyn sanomalehtipaperin keskimääräinen hinta (mk/tonni).

	USA — *USA*	England — *Englanti*	Europe — *Eurooppa*	South America *Etelä-Amerikka*
1929	1 993	2 039	2 164	2 003
1930	2 014	2 096	2 130	1 972
1931	1 932	1 813	1 855	1 567
1932	2 245	1 909	1 716	1 712
1933	1 610	1 562	1 535	1 326
1934	1 307	1 429	1 452	1 294
1935	1 334	1 504	1 473	1 311
1936	1 337	1 505	1 487	1 320
1937	1 419	1 524	1 549	1 438
1938	1 752	1 767	1 901	2 004

The USA average price has been higher than that on other principal markets only in 1931—33. In 1930—36 the South American prices were below the quotations in the USA. It is interesting to be able to state that the values obtained according to foreign trade statistics tally with the above.

Newsprint has, on an average, during the 1930:ies amounted to 95.1 per cent of the entire exports of paper. Of the other grades, wrapping paper interests us most.

Table 29. Finland's exports of wrapping paper.
Suomen käärepaperin vienti.

	To the USA — *USA:han*		To other countries — *Muihin maihin*	
	1 000 tons *1 000 tonnia*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1931	0.06	0.1	51.1	141.4
1932	0.7	1.8	49.8	135.1
1933	1.5	3.7	58.5	128.7
1934	1.8	4.4	49.1	125.8
1935	4.7	11.2	50.3	128.0
1936	6.9	16.9	55.8	140.7
1937	5.2	13.2	73.6	210.4
1938	7.4	21.5	41.2	131.9
1939	7.6	23.5	58.4	178.9
1940	2.4	8.1	21.7	74.8
1941	0.7	1.9	69.4	256.5

[1] Gross price fob Finnish port. The value is not quite exact, since conversions have taken place.

As the above figures show, the exports of wrapping paper are a rather new feature in Finland's trade with the USA. In the 1920:ies these exports were insignificant, but from the very small beginning of 60 tons in 1931 the exports rapidly increased to 7 600 tons in 1939. The high duties introduced in England on different grades of paper in 1931 contributed to this, since Finland was thus forced to look for new sales markets.[1] It is true that the customs duties were high also in the USA in the beginning of the 1930:ies but they were lowered later on by the commercial treaties with Sweden and Finland to 20 per cent ad valorem.

The exports of other grades of paper show insignificant figures.

Table 30. Finland's exports of other kinds of paper.
Suomen muun paperin vienti.

	To the USA *USA:han*		To other countries *Muihin maihin*	
	1 000 tons *1 000 tonnia*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1929	0.9	7.0	29.6	125.1
1930	0.3	3.8	29.9	116.6
1931	0.1	1.8	34.2	107.7
1932	0.3	2.2	36.9	113.5
1933	0.7	3.9	41.9	115.9
1934	1.2	5.4	43.2	138.5
1935	1.0	6.9	39.6	136.8
1936	0.8	6.9	47.5	162.0
1937	0.9	7.1	55.9	221.8
1938	1.6	9.2	55.4	211.4
1939	0.9	7.1	45.9	181.4
1940	0.2	8.5	10.5	83.8
1941	0.04	2.3	25.4	199.6

With the exception of the years of depression and the war years the exports have remained constant at about 1 000 tons. The economic result has varied between 1.8 and 9.2 million marks. The group »other kinds of paper» consists chiefly of tissue paper, cigarette paper, and paper not specially mentioned. Paper coated with asphalt, tar or tar oils or impregnated paper and paper coated with chemicals, fat, etc., except paper coated with paints, parchment paper, greaseproof paper and wall paper have been exported to the USA in only nominal amounts. The production of finer grades of paper for export has not increased to any degree worth mentioning. The greatest obstacle to an extension of the exports to the USA has been the enormously high customs tariffs (for cigarette paper for instance 60 per cent ad valorem) under the protection of which the American paper producers have succeeded in building up a manufacture of their own in spite of high costs of production.

Besides the products of the forest industries, which have already been treated above, there has been a modest export of plywood and other woodgoods.

[1] Berättelse över Finska Cellulosaföreningens verksamhet 1932 p. 3.

Table 31. Finland's exports of woodgoods to the USA.
Suomen puutavaran vienti USA:han.

	Plywood — *Vaneeria*		Other woodgoods — *Muuta puutavaraa*	
	1 000 tons *1 000 tonnia*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1929	—	—	—	—
1930	0.06	0.2	0.0	0.15
1931	—	—	0.003	0.3
1932	—	—	0.0	0.2
1933	—	—	0.01	0.2
1934	—	—	0.005	0.3
1935	—	—	0.03	0.5
1936	0.1	0.4	0.04	0.5
1937	0.2	0.8	0.04	0.8
1938	0.2	0.6	0.03	0.8
1939	0.3	0.8	1.1	1.7
1940	0.2	3.4	0.01	0.3
1941	—	—	0.005	0.3

The above figures show that the above branch of exports is void of all significance in comparison with the exports of pulp and paper products. So far as the exports of plywood are concerned it has principally been a question of duties, to which we shall return in the chapter on trade and tariff policies.[1] The high costs of freight have had a decisive influence as to lumber. The American system of specification, which differs substantially from the European one, has also had a disadvantageous influence.

In order, lastly, to get an idea of how the exports of products of the forest industries have been distributed between pulp and paper, the following table has been compiled.

Table 32. Finland's exports of pulp and paper to the USA.
Suomen puuhiokkeen, selluloosan ja paperin vienti USA:han.

	Pulp products — *Hioketta ja selluloosaa*		Paper products — *Paperia*	
	1 000 tons *1 000 tonnia*	million marks *milj. mk*	1 000 tons *1 000 tonnia*	million marks *milj. mk*
1930	157.0	280.5	41.4	92.8
1931	205.5	285.0	45.9	91.6
1932	195.9	310.6	46.4	98.5
1933	219.7	325.3	54.2	98.7
1934	213.6	314.6	58.2	93.7
1935	260.3	399.7	80.3	128.0
1936	283.4	430.3	129.9	204.8
1937	260.4	440.0	156.8	251.1
1938	246.8	427.1	148.1	289.8
1939	369.3	567.6	186.3	355.4
1940	33.6	69.3	25.2	62.3
1941	8.5	21.5	4.3	11.0

[1] See p. 67.

The share of the paper products in 1930 was 25 per cent of the total pulp products, but towards the end of the 1930:ies already more than 50 per cent. In respect of the Finnish exports to the USA, the general integration has been stronger than for Finland's entire foreign trade.[1]

Of the facts brought forth by the analysis we point to the following. The total exports to the USA have amounted to one tenth of Finland's foreign trade, but in the case of certain products of the forest industries this share has been considerably larger. During the 1930:ies an average of 24.0 per cent of Finland's sulphite exports, 28.0 per cent of Finland's sulphate exports, and 30.1 per cent of Finland's newsprint exports went to the USA.[2] There were no signs of any stagnation of the sulphate exports in spite of the great increase of capacity occurring in the Southern states, which capacity was in expert circles generally believed to make the USA independent of imports of sulphate. Only the price tendency was less advantageous toward the end of the 1930:ies. As to the economic result, we are able to affirm that the popular idea about high prices on the American market does not hold good. Freight and costs of sales have increased the gross prices so that the net prices, at least so far as newsprint and sulphate pulp are concerned, have been less advantageous than on the other principal markets.

[1] Compare Fogelholm 1937 p. 296.
[2] Compare p. 115 regarding Sweden.

Sales organization and transport.

Before Finland gained her independence, her exports to countries outside Europe were practically entirely handled by foreign exporting-houses. This manner of exporting flourished also much later in many branches of production, but Finland's forest industries already at an early date obtained a permanent organization for the management of their exports. Ever since the foundation of the Finnish Cellulose Association, the Finnish Paper Mills' Association, and the Finnish Woodpulp and Board Union in 1918 the chief part of the Finnish exports to the USA have been handled through the medium of these sales organizations.[1] The following table gives an idea of the quantities shipped through these associations.

Table 33. Finland's exports of pulp and paper to the USA according to sales organizations.
Suomen puuhiokkeen, selluloosan ja paperin vienti USA:han vientijärjestöjen mukaan jaoiteltuna.
(1 000 tons) — *(1 000 tonnia)*

	The Finnish Cellulose Ass. *Suomen Selluloosayhdistys*	The Finnish Paper Mills' Ass. *Suomen Paperitehtaitten Yhdistys*	The Finnish Woodpulp and Board Union *Suomen Kartonkiyhdistys*	Total *Yhteensä*	Others All grades *Muut viejät*
1929	136.6	17.8	9.3	163.7	29.7
1930	132.5	24.8	12.9	170.1	28.3
1931	169.3	23.6	18.1	210.9	40.4
1932	128.0	25.3	20.9	174.2	68.1
1933	149.1	33.0	18.5	200.6	73.3
1934	152.0	36.2	11.8	200.1	71.7
1935	187.5	44.6	22.0	254.0	86.5
1936	196.6	74.8	27.6	299.0	114.3
1937	188.0	84.0	25.5	297.5	119.7
1938	194.4	95.7	23.4	313.6	81.3
1939	304.6	113.6	27.6	445.8	109.8
1940	35.5	11.5	2.7	49.7	9.1
1941	8.7	0.8	1.5	11.0	1.8

The Kymmene and Tervakoski Mills were the largest exporters of products of the pulp and paper industries outside the associations.

[1] The Finnish Woodpulp and Board Union had been founded already 1892 but was reorganized in 1918.

The advantages of sales organizations in common when exporting to a market of the size of the United States are evident. The possibilities of making international agreements, of negotiating sales conditions, distribution of markets, questions concerning prices etc. increase with firm united action on the side of the producers. Also as to practical sales technics the associations have greater possibilities than the smaller private exporters of handling business to the satisfaction of the buyer, for instance as to foreign correspondence, shipping documents and investigation in case of claims which often give cause to difficulties to smaller concerns.[1]

For Finland's forest industries the great value of the Finnish associations is beyond any doubt. Their inner organization has been praised by foreign trade press and quoted as a model for later similar combinations.[2] It is suggestive that the plywood and sawmill industries, which have not had any similar stable organization to lean back upon, have failed in their endeavours to sell to the USA.

The Finnish organizations in the form of associations have not been able to influence the real price level of the American market, since the domestic market prices are determined by entirely different factors. Not even combines of Scandinavian size have any possibility of influencing the price structure in any degree worth mentioning on account of the small amount of imports to the USA as compared to their own production.

Since the exports to the USA already in the 1920:ies attained a great importance, it was natural that the associations appointed agents of their own in the USA in order to get into connection with the buyers. The influence of the export-houses was thus very slight from the beginning and the tendency toward direct sales grew. Therefore certain dissensions with foreign export-houses could not at first be avoided. The advantages of direct sales, nevertheless, are evident. The fact that the export-houses bought the goods outright and delivered them in neutral packing was in itself a great drawback, since the buyers did not know the origin of the goods. On the other hand, the associations avoided every financial risk when employing the exporters, since these, as said, took over the goods altogether.[3] Later experience has shown that the insolvency of the buyers caused only slight losses to the associations.

In the USA the following concerns have been agents of the sales organizations, viz.:

The Finnish Cellulose Association	Lagerloef Trading Co Inc. 1920—37.
	Pulp Sales Corp. 1937—
The Finnish Paper Mills' Association	Persons & Whittemore Inc. 1921—
	Jay Madden Corp. 1930—

[1] Compare SU 1930 p. 405, 1935 p. 68, 1939 p. 235.

[2] Compare En tidningsdiskussion om cellulosaindustriens läge, 1930 p. 1306 and Swanson 1935 p. 33.

[3] Concerning the future of the export-houses see for instance Pappersexporten på de transmarina marknaderna, 1935 p. 199.

The Finnish Woodpulp and Board Union	Lagerloef Trading Co Inc. 1919—38.
	Pulp Sales Corp. 1938—
	Jay Madden Corp. 1935— (board).
The Kymmene Mills were represented by	H. Reeve Angel & Corp. Inc. (paper).
	Pulp Sales Corp. (pulp).
	Jay Madden Corp. (board).

In the beginning of the 1930:ies Finland's most important articles of export were still entirely in the hands of foreign agents. The lack of a representation of their own in the USA hindered the introduction of new articles and made it more difficult to extend the market. At this time a strenous propaganda was started for the schooling of a staff of agents of their own.[1] The associations also endeavoured to offer their employees an opportunity of learning the business at their agents' offices in New York. From 1935 on the Finnish Paper Mills' Association and the Finnish Woodpulp and Board Union have had a permanent representative at the firm Jay Madden Corp. The Finnish Cellulose Association finally went the whole length and in 1937 founded an agency firm of their own in New York called Pulp Sales Corporation. On February 1st 1938 this firm also took over the sales of ground wood pulp.[2] The activity of the Pulp Sales Corporation was broken off so soon by the outbreak of the war that it is difficult to judge to what extent it had an advantageous influence on the trade. In view of the quantities sold through the agency it seems that the concern started well.[3] The peak figures of 1939 for the export of pulp can perhaps be put to the credit of the agency's activity, even if the fear of war was the chief reason for the increased exports.

This endeavour to transfer the sales activity altogether to a domestic agency is appropriate only under the assumption that absolutely first-class personnel can be had for its management. In case the necessary competency is lacking, the advantages that a domestic representation offers are easily lost. It is doubtful, whether a representative, who is a foreigner from the American point of view, has a possibility of obtaining satisfactory connections in the purchasing circles there. A many years' stay at the place of business is necessary in order to become acquainted with the American market and the enormously rich and varied spheres of American business life. So long as Finland has not endeavoured to school appropriate agency personnel of its own, the most convenient method would probably be that used, for instance, by the Finnish Paper Mills' Association, with a permanent representative at the agency in New York. By this we do not deny that a competent domestic agency offers advantages that could scarcely otherwise be obtained, as for instance when in the question of propaganda activity. It must probably be

[1] Compare for instance Kahma 1933 and 1935.
[2] The advantage of distributing the board and the ground wood pulp on different agencies has been touched on above. See p. 48.
[3] Compare Berättelse över Finska Cellulosaföreningens verksamhet 1938 p. 4.

considered self-evident that a competent Finnish agency would be economically more advantageous, at least when there is a question of large quantities.

Concerning sales technics it may be mentioned that the sales of all the associations have been on the commission basis, the agent standing delcredere. The last mentioned has often reinsured himself in order not to run the delcredere risk himself alone. Otherwise there have been slighter differences in the activities of the associations, so that these differences can be treated each one by itself.

The sales conditions of the Finnish Cellulose Association have chiefly been: »on dock» or »ex dock» of named port, but also »franco» has occurred in certain districts. Franco deliveries have embraced chiefly the Great Lake districts and the goods have been delivered by water all the way to the factories after reloading in Montreal on smaller vessels.[1] The terms have mostly been payment within 30 days after the agency's invoice date, when the boat has arrived. During the greater part of the 1930:ies an unnecessarily intricate system of grade control was still applied. Official chemists authorized by the state analysed the moisture content and determined the weight in the USA, which involved rather great costs. Just before the outbreak of the war it was agreed that the analyses of the mills were to be sent to the buyers for control. In case the buyers desired an official analysis, the costs were paid by them, if the analysis of the Finnish mill proved to be right, otherwise by the seller. Claims arose principally on account of the price development. At a turn of the tide to the worse these cases were more frequent, since the buyers tried in this manner to obtain adjustments. In spite of the high requirements in regard to grade it has never been necessary to pay any compensations worth mentioning.

The Finnish Paper Mills' Association sold chiefly on cif conditions. Ex dock was also previously a general mode of selling, but this was abolished, when the danger of customs duty changes became greater in connection with the American actions to introduce a dumping duty.[2] In ex dock sales the goods are stocked on the quay and continue to be in the possession of the seller, so that an eventual increase of the customs duty during the time the goods are stocked would be payable by the associations. The terms of payment were for 30 days after the goods had arrived. One per cent discount was granted for earlier payments. The original invoice was sent to the buyer, but no payment »cash against documents» occurred, since the buyers always wished to be sure that the goods had in fact arrived. The price of newsprint was determined according to agreement with the buyers in the USA and was proportionate to the zone prices fixed by the Canadian and American interested parties. Generally the Finnish mills were considered entitled to sell at a price about $ 5.— lower in order to compensate the buyers on account of the irregular deliveries. Particularly in the case of newsprint the grade requirements were high, since the

[1] Compare »Ashlander» 1934 p. 732. The usage has, generally speaking, been that the buyers pay the inland freight from the port to the mill. Compare U.S. Tariff Commission 1938 p. 24.
[2] Compare p. 15 and 27.

paper should not under any circumstances break, the rotation presses working at an enormous rapidity.[1] Claims were seldom made, since the buyers, in the event they were discontented, preferred to let the matter rest an open question, but avoided signing new contracts.

The deliveries of the Finnish Woodpulp and Board Union were made on dock Atlantic port but sometimes free deliveries were made as far as to the mills. There were slight differences in regard to different grades. Board was delivered solely on dock duty paid, since the American manufacturing mills preferred to have clear figures as to costs of raw material. The Kraft paper on the other hand was sold cif to wholesalers and importers, who were themselves used to handle the question of customs duties. The terms of payment were 30 days after the goods had been delivered on dock; two per cent deduction was granted, if the payment were made within ten days. Weak clients opened a letter of credit. Sales prices varied a great deal on account of the keen competition on the board market. The board sales were chiefly restricted to a smaller number of large buyers, with whom contracts were closed once or twice a year. Hereby the grade and the price of delivery were settled in advance for half a year or a whole year. A more detailed specification of the goods was given later on. Deliveries were made monthly. The American buyers were very particular as to grades, so that claims could not be avoided. The most frequent claims occurred on account of the board splitting, since it could not stand the enormous pace of the working machines. The association's special representative at the agency handled the investigations concerning complaints.

The ground wood pulp was delivered on dock Atlantic port but also as far as the lake districts, reloading having taken place. The terms of payment and the closing of contracts were mostly similar to those in respect of the sales of board. Claims ensued only as regards the degree of moisture in connection with the analysis, executed on dock by the official American chemists.

In order to obtain an idea of the sales costs in the USA compared to those in other chief markets the following approximate figures have been collocated.

Costs in per cent of invoiced value of chemical pulp exported from Finland.

	USA	England	South America
Average 1935—38	7.85	5.8	2
1939	9.81	5.8	2

Agency commissions, interests, insurances etc. are included in these percentages. The office costs amounted to about one per cent, so that the real sales costs were correspondingly lower. As may be seen, the costs in the USA have steadily been two per cent higher than those in England, due to the high sales commissions and insurance premiums in the USA. Wickström wrote about this:[2] »Amerikan

[1] Also the competition of Canada forced the Finnish mills to produce higher and higher grades.
[2] Compare [Wickström] 1937 p. 366.

markkinain erikoisuudesta johtuu, että välikäsille on taattava huomattavasti suurempia palkkioita kuin Euroopan markkinoilla.» (It is a peculiar characteristic of the American market that middle-men must be quaranteed considerably larger remuneration than is the case on the European markets.) Also, the costs of interest necessarily raise expenses, since a longer term of payment is the general usage there. The figures of 1939, when the Finnish Cellulose Association handled the sales through their own agency are of special interest. One would rather have expected a decrease in costs, but it is to be seen from the table that they rose by a further two per cent. A decrease of the real sales costs, however, had occurred, while the costs of delivery on the other hand had increased on account of the raised insurance charges.

The low percentage value of the costs in South America is due to the fact that purchases there were made outright at net fob prices, and the buyers added freight and commission to the price.[1] The costs, therefore, consisted only in office expenses and interest. A comparison with the USA is not possible.

Until now we have treated the domestic sales organization. There were, however, and particularly so during the 1930:ies, among the forest industries a number of international combines of a more or less trust-like character. Amongst the most important the following may be mentioned: The Sulphite Pulp Suppliers (SPS), Mechanical Pulp Suppliers (MPS), Scancraft, Scangreaseproof, Cap-Association and Tissue-Association. Most of these had on their program regulation of price as well as of production, while some were active, at least officially, only in order to exchange statistical and other information. It is a matter for discussion to what extent these combines were finally able to influence the market, but it is certain that for instance such large unions as SPS and MPS, which controlled the European production to almost 100 per cent, exerted a determinative influence on prices within wide areas. But so far as the American market is concerned, a review of the following figures obliges one to be more sceptical.

The wood pulp market of the USA by 1 000 tons.[2] (Average 1937—39).

USA's production	Total imports	Imports from Canada	Imports from Europe
5 900	1 850	550	1 300

The total imports amounted to 30 per cent of the production of the USA themselves. Of these imports 30 per cent came from Canada so that the imports from Europe only amounted to 17 per cent of the total pulp requirements of the USA. A curtailment of the European production, say by 50 per cent, would not have influenced the pulp resources of the USA even by ten per cent. It is true that the pulp purchasing market of the USA was considerably smaller since a great deal of the production was already reserved for integrated converting mills, but the

[1] The Finnish Cellulose Association chiefly employed the Gothenburg firm Elof Hansson.
[2] Compare p. 83, 85 and 105.

American domestic market price without any doubt also fixed that for imported pulp. As to newsprint, a European combination without Canadian coöperation would not have had any possibilities of influencing the market in the USA.

The newsprint market of the USA by 1 000 tons.[1] (Average 1937—39).

USA's production	Total imports	Imports from Canada	Imports from Europe
820	2 430	2 180	250

The imports of newsprint from Europe in 1937—39 amounted on an average to eight per cent of the total consumption of the USA.

As to the resumption of activity of the the international combines after the war, it is to be noted that the trusts question has always been a specifically American problem. Ever since the days of glory of the large trusts, all monopolistic tendencies have been strongly resisted in the USA. In this resistance the USA possesses two weapons, namely the Sherman Antitrust Act and the power which Congress possesses to investigate and make public the hidden dealings of trust interests. A very severe application of the antitrust laws must be reckoned with after the war. The most embittered criticism in the USA against the trusts implies that they have caused an extensive lack of necessities such as aluminium, magnesium, rubber, and medicines during the war.[2] Detailed information as to trust activity has been accessible through prosecutions by the United States' Department of Justice and through wartime investigations by various countries. The revelations obtained thereby have led to a violent campaign against every trust activity. Berge, for instance, wrote:[3] »It seems abundantly clear that America can never have a foreign policy based on the principles of democracy and international good will as long as international trade is dominated by cartels. It does not seem possible that the Atlantic Charter, the Good Neighbor policy, and the reciprocal trade pacts can effectively prevail if the special privilegs of cartels dominate trade and politics in the postwar world.» Also Edwards stated:[4] »There is a widespread recognition among the United Nations that the international cartel pattern which prevailed between the two world wars should not be permitted to renew itself in the coming peace.» The only form of trust activity, that is legally permitted in the USA, is that of the combines of American industries which work for exports and are allowed to combine in order to be able to compete on foreign markets. At present there are 45 such trusts. This has been possible through the so called Webb Act of 1918. This act came about in order to assist businessmen in competing with foreign trusts, not intending to give them the possibility of joining these trusts. The opinion that the USA should

[1] Compare p. 84, 86 and 106.
[2] Interesting revelations about it in Berge 1944 particularly p. 211—230.
[3] Berge 1944 p. 10.
[4] Edwards 1944 p. 101.

join foreign trusts in order to be able to obtain a larger foreign trade, since it is the case that Europe is dominated by them, has at present no possibility of making itself heard. The USA has the absolute possibility of carrying on her own policy in regard to the question of trusts, since it will not influence its foreign trade in any manner worth mentioning.[1] The opinion prevails that the American courts can control foreign citizens or companies even in case they are on foreign soil, so far as their activity bears upon the domestic or foreign trade of the USA.

The trusts of the forest industries, mostly aiming at a curtailment of eventual overproduction, cannot be compared with the steel trust, for instance, or any similar combines. Before the war the trusts of the forest industries were allowed to carry on their activities rather undisturbed. But during the war the newsprint company Crown Zellerbach Corporation was fined \$ 30 000.— because of their illicit trust activity. Similarly the Department of Justice filed a complaint charging the maintenance of an international trust for the sale of matches, whereby six American, two British, one Canadian and a Swedish company were made responsible.[2] Also the United States Pulp Producers' Association wrote in its Postwar Policies for the United States' Wood Pulp Industry as follows:[3] »The wood pulp industry of the United States is not seeking tariff protection. It will, however, endeavor to maintain its essential position in our national economy by seeking, through every possible legitimate means, to prevent untair competitive trade practices which enable foreign producers to dump wood pulp in this market at less than fair values based on American costs of production.» All this indicates a changed attitude as to the trusts among the forest industries. Without entering upon a more detailed scrutiny of the correctness of the criticism made against the trusts as a menace to free international trade, the questionable result of a campaign of extermination should, nevertheless, be brought forth, since the trusts are able to carry on their activity altogether too easily using one kind of camouflage or another. But evidently an international trust agreement between European forest industries to the same extent as previously is not to be recommended to exporters to the American market. The advantage of such an activity is under all circumstances problematic so long as American coöperation is out of the question. The exchange of statistics is the only legal form of international coöperation allowed by the USA.[4]

The pre-war trust agreements have always been made between the producing countries without the consuming countries having had anything to say in the

[1] Compare Financial Post 1939 February 25th and p. 121 and 117 concerning the American credit and industrial capacity after the war.
[2] On account of the activity of the trust the American production has been kept down, which has caused the production of chlorate of potash to be neglected to the prejudice of the war industries. Not less than 26 cases against trusts have been raised by the Department of Justice since 1937 in consequence of the anti-trust laws.
[3] Postwar Policies for the United States Wood Pulp Industry 1944 p. 6.
[4] Compare Postwar Policies . . . 1944 p. 6.

matter. Furthermore, the agreements have aimed at curtailments of production and regulation of prices without any real endeavour to remove the basic causes of the maladjustment of supply and demand. If the international coöperation of the forest industries is to be resumed after the war, a reorganization of the activity in respect to the above is necessary. If they are properly managed, these trusts have a beneficial influence on the market in preventing the sharp fluctuations that have been so typical for the forest industries.

The question concerning the arrangement of transport possibilities is in close connection with the sales organization. Before the first World War, Finland's transoceanic trade was insignificant; not more than 1.6 to 1.8 per cent of Finland's total exports went to countries outside of Europe. Beginning with Finland's trade-political new-orientation in 1919 the importance of her trade with the countries outside of Europe has rapidly increased. Direct ship connections with the USA were at first rather rare, and a great part of the exports were shipped on smaller Baltic vessels to Hamburg, Bremen, or London, where the goods were transferred to the transoceanic lines. Certain shipping companies, however, extended their voyages to Finnish ports. Among others, the American Scantic Line has kept up regular freight traffic between the USA and Finland since 1918.[1] Also the Swedish America Mexico Line was extended in 1931 so as to embrace Finland. The above mentioned shipowners as well as the shipping company Transatlantic Steamship Company made an agreement in 1931, so that a direct boat traffic with the USA was obtained at an average of once a week.[2] Through this arrangement the question of transportation to the USA was fairly well arranged. Yearly contracts were then closed between the Finnish pulp, paper, and board mills' associations and the above mentioned shipowners' combines, whereby each of the associations respectively guaranteed a certain minimum quantity as against as regular shippings as possible arranged by the shipowners. A Finnish line to the USA was, nevertheless, lacking. The first Finnish transoceanic line started in the spring of 1926 with traffic to South America. Already as early as in the beginning of the 1930:ies, propaganda for starting a boat connection of her own with the USA was made within quite large circles, and the shipping company G. Thordén began a regular line of traffic to the USA in 1936.[3] The advantages of domestic transoceanic lines are evident. Besides the economic advantage of the beneficial influence of freight incomes on the balance of trade, it must be remembered that large combines of international shipowners run their ships to their own ends, which might be diametrically contrary to the

[1] The time of transit was calculated at 15 days.
[2] SU 1931 p. 99.
[3] Compare [Thordén] 1930 p. 497 and Hoppu 1930 p. 137: »Ei liene siis kaukana se aika, jolloin ei ainoastaan yleisesti käsitetä, mikä tekijä kotimainen laivanvarustus kaukolinjoineen on maalle, vaan pidetään niitä ehdottoman välttämättöminä.» (The time, therefore, is probably not far off when the importance of domestic shipping with overseas lines not only finds popular understanding but is held to be an absolute necessity.)

interests of Finland. Generally speaking, the increase of the Finnish-American trade would not have been possible at all without an improvement in the traffic conditions. The buyers at present often demand the goods delivered regularly in small lots, so that regular lines also in respect of freight boats have become a necessity.[1] In connection with the treatment of certain post-war problems we shall return to the situation into which Finland happened to come through the war.[2] The differences between costs of freight from Finland to the USA and those to England are shown in the following table.

Table 34. Costs of freight in Finnmarks per ton of chemical pulp exported from Finland.

Rahti markoissa Suomesta vietyä selluloosatonnia kohti.

	To the USA *USA:han*	To England *Englantiin*
1935	183: 20	100: —
1936	180: 80	100: —
1937	183: 20	100: —
1938	210: 68	120: —
1939	301: 85	120: —

In the middle of the 1930:ies the difference between the freight-rates from Finland to the USA and those to England ranged about 80: — marks a ton. From 1938 the freight-rates to the USA rose more rapidly than those to England. Particularly in 1939 the difference was so considerable that the bad average net price of the year can partly be attributed to the difference in freight. The gross average price thus exceeded the corresponding English one, which can be ascertained from the figures shown in table 13. The difference in freight for dry pulp under normal times was not so considerable. On the other hand the freight for wet pulp rose to considerable amounts. This was, as has been pointed out above, the primary reason for the small exports of wet pulp to the USA. The cheapest freight to England was 80: — marks a ton, while the American freight never was below 170: —. In the USA a high railway freight often had to be added. The wet pulp that the USA bought in spite of all consisted exclusively of special grades. During the latter part of the 1930:ies, the freight for newsprint fluctuated between $ 6.— and 6.75 a ton for direct shipments. The freight to the eastern coast was from $ 1.— to 1.50 higher.

The degree in which the differences in freight adversely affected Finland's competitive possibilities is shown by the following figures.[3]

[1] The comments on regular deliveries concern particularly newsprint.
[2] Compare p. 128.
[3] Guthrie 1941 p. 191.

Table 35. Estimated transportation costs of newsprint mills in Canada and USA. (Dollars per short ton)

Kanadan ja USA:n sanomalehtipaperitehtaitten keskimääräiset kuljetuskustannukset tehtaasta markkinoille (Dollaria short tonnia kohti).

	Quebec, Nova Scotia and New Brunswick *Quebec, Nova Scotia ja New Brunswick*	Ontario *Ontario*	Maine and New York *Maine ja New York*	Lake States *Järvivaltiot*	Pacific Coast *Länsirannikko*
1929	7.25	7.60	6.05	3.25	8.50
1935	6.55	6.50	5.90	3.20	7.60

As we see by the table, at least the Canadian mills do not seem to have been in a much better situation so far as costs of freight are concerned. Only the mills in the Lake states were able to calculate with a considerably smaller freight than those in Canada and Finland. The decrease of costs between 1929 and 1935 that the above figures indicate can be partly explained by the shifting over to transportation by water to the greatest possible extent. By this means the railways were forced to lower their tariffs somewhat.[1] However, no further development in such a direction can be expected. It is not possible to compare directly with the Finnish freight-rates the figures shown in table 35, since railway freight here as well as in the States has to be added when Finnish newsprint is in question. The freight for instance from Kemi during the time of winter ice traffic in certain cases rose to the same amount as the Atlantic freight.

[1] In 1935 the railways in the USA introduced summer rate between places connected by water; the costs of the winter traffic remained unchanged.

Trade and tariff policies.

The developments in the general trade policy between the World Wars were strange and wonderful. During the 1920:ies there existed, at least in principle, freedom for merchandise to pass the boundary, the only restriction being the customs duty levied, which influenced only the price. The principle of the most favoured nation was the cornerstone of trade agreements. At the World Conference in Geneva there still reigned a state of friendly feeling toward free trade. But this was so only in theory, since the years 1928—30 saw the onward march of protectionist customs duty and of economic nationalism everywhere. When the depression in 1931 reached bottom, the new ideas finally broke through and led to complete ascendency of protective trade theories. Ramsay wrote about it:[1] »Sopimukset eivät koske enää yksinomaan abstraktisia käsitteitä, vaan enemmän tai vähemmän itse konkreettisia tavaramääriä.» (Agreements no longer apply to abstract conceptions alone but more or less concrete quantities of goods.) The concrete restrictions aimed at in this case were, as is known, prohibition of imports, quota systems, monopolies, currency control, clearing agreements, and barter etc., or as Procopé wrote:[2] »Eri maat ovat viime vuosina kauppapolitiikassaan olleet melkein uskomattoman kekseliäitä, kun on ollut kysymyksessä rajoittamis- ja suojaamistoimenpiteiden käytäntöönpano.» (Various countries have during the past years evinced an almost unbelievable resourcefulness in putting in practice protective and restrictive measures.) This inventiveness did not run dry during all the 1930:ies.

The trade-political development in the USA, did not, however, follow these general lines of direction. In 1930 the so called Hawley-Smooth tariff was substituted for the very strongly protective Fordney-McCumber tariff of 1921, when the Republicans were in power, and customs duties were further raised by 52 per cent. Already at this time a rather strong opinion against the increase of duties, nevertheless, asserted itself. Amongst others, 1 028 economists, representing 179 universities, petitioned Congress to reject the new tariff law. Later, the National Recovery Act § 3 e was also added. This paragraph entitled the President to determine import quotas independently of agreements, or to prohibit imports of a fixed

[1] Ramsay 1933 p. 31.
[2] Procopé 1935 p. 35.

article altogether in case any danger seemed to exist of the codes made by the NRA being jeopardized. At this point the USA had drifted a long way toward new-mercantilism. When the Democratic party came to power in 1933, a marked change occurred. Among the many reforms instituted by President Roosevelt in order to stimulate trade there was also a new program for the American foreign trade, the Reciprocal Trade Agreement program, based upon the Trade Agreements Act of June 12th 1934. This Act indicated a turning point in the history of American trade policy. The Evening Star wrote about it:[1] »It assumes officially, for the first time in American history, that foreign trade is a two-way process.» The primary aim of the act was to extend foreign markets for American goods. This was expected to be attained by reciprocal adjustment of excessive trade barriers. Or as the New York Times in a somewhat more lyric manner expressed it:[2] »To check the long fall of international commerce and to restore lost prosperity our government is preparing to apply the lever of reciprocal tariff treaties.» In practice, the right to conclude commercial treaties was hereby transferred to the President and the Cabinet, even if these agreements were called tariff agreements and did not constitute commercial treaties in name.

The original Act was valid for three years and has since then been renewed several times for periods of the same length. During the time that this program existed, agreements were made between the USA and 28 other countries.[3] The chief part of the American trade is now carried on with countries with which such agreements have been made.

By the Reciprocal Tariff Act the President was entitled to lower or raise import duties by 50 per cent. This power was used for the lowering of several customs duties in connection with commercial treaties made. The tendency in the USA towards the end of the 1930:ies was thus rather friendly to free trade, while in other parts of the world the multitude of restrictions in trade kept on increasing. Generally speaking, the USA have admitted imports free of quantitative restrictions within the limits of the commercial treaties in force.

It is interesting to establish to what degree commercial agreements have favourably influenced the volume of the American trade. In 1934—35 the total foreign trade of the USA was on an average 4 100 million dollars annually, while the corresponding figure for the period 1938—39 was 5 300 million dollars. This fact can be explained only by improvement of the tide of the market, but a more detailed analysis gives another view of the situation, as is shown by the following collocation.[4]

[1] Evening Star 1934 July 12th.
[2] New York Times 1934 July 15th.
[3] The first agreement was made with Cuba in 1934, the last ones with Ireland and Iceland in 1943.
[4] Compare Roosevelt's message of March 26th 1945 to Congress reviewed in Foreign Commerce Weekly April 7th p. 49, also McCoy 1945 p. 42.

The foreign trade of the USA.

	with treaty countries		with other countries	
	imports	exports	imports	exports
1934—35	100	100	100	100
1938—39	121.6	162.8	111.0	131.2

During the period of 1934—35 only one commercial treaty had been in force for a year or more, while 16 treaties existed in 1938—39. Trade with countries, with which tariff treaties had been made, increased by 22 per cent as to imports and by 63 per cent as to exports. The corresponding figures for trade with »other countries» do not show an increase of even nearly such importance.

There were no treaties with the USA for some time after Finland had gained her independence either as to consular matters or concerning trade. In 1923 the USA handed in a proposition for a treaty. Five years later a counterproposition was made from the Finnish side, whereupon three years passed, before the USA had the time to consider the matter further. On February 2nd 1934 the matter had at last advanced to the point of signing the Treaty of Friendship, Commerce and Concular Rights between the Republic of Finland and the United States of America. In Finland the treaty came into force on August 11th 1934 after a further delay of half a year. The fact, that it took eleven years before an agreement concerning these questions could be obtained, certainly hindered speedy increase of Finnish-American trade.[1]

This delay, which was chiefly caused by Finland, can in some measure be excused by the lack of experience in handling such matters in consequence of the short time that Finland had enjoyed her independence.

When the treaty of 1934 had been signed, negotiations continued concerning a separate Reciprocal Trade Agreement, and such a treaty was concluded in 1936. A.S. wrote concerning the origin of this tariff agreement as follows:[2] »Den nuvarande amerikanska traktat-politiken motsvarar i all huvudsak de åsikter, som äro gällande i Finland, samt därmed även den handelspolitik som här följts.» (The present American policy corresponds on all main points to the views held on these questions in Finland, and correspondingly to the trade policy which has been adhered to.) No real difficulties were encountered in the discussions. When the agreement had been signed in Washington on May 18th, half a year was lost before it came into force on November 2nd, when the Finnish Diet passed it in third reading. This tariff agreement granted great reciprocal reductions of customs duties, which in a high degree facilitated trade towards the end of the 1930:ies. The agreement was otherwise based on the most favoured nation principle, as was the consular agreement of 1934. Stipulations concerning eventual import or export restrictions and also

[1] In 1925 a temporary agreement had been closed by diplomatic correspondence according to which both countries guaranteed each other most favoured nation treatment.
[2] A. S. 1936 p. 557.

concerning currency control were included in the agreement. These stipulations, however, never had to be applied.

As early as 1921 the Finnish forest industries had been obliged to wrestle with custom difficulties in the USA, when the Fordney-McCumber tariff introduced a number of customs duties on paper. When the tariff of 1930 came into force, the customs duties levied for certain more important products of the forest industries were as follows.[1]

§ 401. Sawed lumber and timber.

»Timber hewn, sided, or squared, otherwise than by sawing, and round timber used for spars or in building wharves; sawed lumber and timber not specially provided for,»

$ 1 per thousand feet, board measure.

§ 412. Thread spools.

»manufactures of wood or bark, or of which wood or bark is the component material of chief value, not specially provided for,»

33 1/3 per cent ad valorem.

§ 405. Plywood.

»plywood, 40 per centum ad valorem, and in addition thereto on birch and alder plywood, 10 per centum ad valorem.»

40 per cent + 10 per cent ad valorem.

§ 1401. Newsprint, not standardized, and printing paper.

»bookpaper, and all uncoated printing paper, not specially provided for,»

1/4 of 1 cent per pound and 10 per cent ad valorem.

§ 1402. White, unglazed pulp board.

»Paper board, wallboard, and pulpboard, including cardboard, and leather board or compress leather, not plate finished, supercalendered or friction calendered, laminated by means of an adhesive substance etc. etc.»

10 per cent ad valorem.

§ 1413. Other kinds of pulp- and paper board.

»Papers and paper board and pulpboard, laminated by means of an adhesive substance, lined or vat-lined»

30 per cent ad valorem.

»test and container boards of a bursting strength above sixty pounds per square inch by the Mullen or the Webb test,»

20 per cent ad valorem.

§ 1404. Carbon paper, copying paper, condenser paper, tissue paper etc. thin papers.

»Papers commonly or commercially known as tissue paper, stereotype paper, and copying paper, condenser paper, carbon paper, and all paper similar to any of the foregoing, weighing not over six pounds to the ream,»

6 cents per pound and 20 per cent ad valorem.

[1] Compare Tariff Act of 1930.

»weighing over six pounds and less than ten pounds to the ream,»

5 cents per pound and 15 per cent ad valorem.

§ 1405. Parchment paper, greaseproof, also imitation etc.

»vegetable parchment paper, grease-proof, and imitation parchment papers which have been supercalendered and rendered transparent or partially so, by whatever name known, all other grease-proof and imitation parchment paper, not specially provided for, by whatever name known,»

3 cents per pound and 15 per cent ad valorem.

§ 1409. Wrapping paper.

»wrapping paper not specially provided for,»

30 per cent ad valorem.

Under Title II — Free List the following remained.

§ 1716. Chemical wood pulp and ground wood pulp.

»Mechanical ground wood pulp, chemical wood pulp unbleached or bleached.»

§ 1772. Newsprint paper.

»Standard newsprint paper.»

The customs duty for lumber was of smaller importance to Finland, since it had not been possible to work up exports of lumber worth mentioning even during previous years, when such goods were free of duty. The duty on thread spools was clearly prohibitive and prevented every attempt to compete on the American market. The high duty on plywood was introduced in order to prevent Russian plywood from competing with the domestic industry of the USA. The duty on ordinary white pulp board, amounting to ten per cent ad valorem, did not prevent exports of this article, but all the other kinds of board, the customs duties on which varied between 20 and 30 per cent, had very small sales possibilities. The importance of the duty on pulp board decreased indirectly, since also England introduced high customs duties on this type of goods. The duty on different kinds of paper was so high that it was not possible to expand exports in any degree worth mentioning.

The imports to the USA of newsprint and pulp have been free of duty since the first World War, nor have they been limited in any other manner. This must be attributed chiefly to the American press, which very effectively resisted every attempt at making imports more difficult.

In the beginning of the 1930:ies a further increase of customs duties according to the Hawley-Smooth tariff act took place.[1] Amongst other things the duties on planed or unplaned lumber were raised to $ 3.— per 1 000 board feet. Besides, that clause of the tariff law was abolished which stipulated that no duty should be levied on lumber from such neighbouring countries as did not levy the corresponding duty. In connection with the new tariff law an extensive activity started for the introduction of a customs duty on newsprint and for compensation duties to apply to imports from countries with weak currency.[2] Currency equalisation was the

[1] Compare Yhdysvaltain uusi verolaki, 1932 p. 244.

[2] Compare FPJ 1932 p. 196 and 724, also Tullkraven i U.S.A., 1933 p. 88 and 138.

catchword of the day and it was asserted that an extra taxation of goods from countries with reduced currency did not have the character of a tariff. Though no stipulations as to imports from countries with a depreciated currency were included in the tariff, § 3 e of the National Recovery Act was still valid. Evidently criticism against the introduction of the currency customs duty was very severe. The exclusion, for instance, of the imports of pulp would have raised the costs of the converting factories but not the selfsupporting mills. This would have had unpredictable consequences for the inner structure of all the American forest industries.[1] It would have brought about a readjustment that might eventually have been advantageous at the outbreak of the war in 1939, but could not have been recommended in times of peace.

A closer scrutiny of, for instance, the imports of newsprint from Europe at the beginning of the 1930:ies immediately shows that the currency conditions did not have any influence worth mentioning. The imports of newsprint during these years were as follows:

	From Europe (1 000 tons)	From Finland (1 000 tons)	Average exchange value of the dollar on the Bank of Finland
1930	121	37	39: 70
1931	136	42	43: 54
1932	132	43	64: 89
1933	138	50	55: 03

In 1931 the imports show a considerable increase although the currency depreciation had already prevailed for three months, ever since England abandoned the gold standard. In 1932 the depreciated European currencies had been favourable all the year from the point of view of exports to the USA, but the total imports from Europe decreased to 145 000 tons and increased again in 1933 to 153 000 tons in spite of the decrease in the international value of the dollar, when the USA changed the gold parity of her currency. The imports of wood pulp passed through a similar development.

The tariff agreement of 1936 realized the following reductions of customs duties from the American side.

§ 405. Plywood wholly or in chief value of birch
25 per cent ad valorem.

§ 412. Spools wholly of wood suitable for thread not including bobbins
25 per cent ad valorem.

§ 1409. Wrapping paper not specially provided for
20 per cent ad valorem.

§ 1405. Vegetable parchment paper by whatever name known
2 cents per pound and
10 per cent ad valorem.

[1] Tullfrågan i U.S.A., 1933 p. 296.

By the agreement with Finland also the following rebates, which had already previously been granted other countries, were separately given to Finland.

§ 1402. Unglazed kinds of pulp board
10 per cent ad valorem.

§ 1413. Calender-glazed glued and other kinds of pulp board
$ 14. 50 per ton of 2 000 lbs., but not less than 15 per cent nor more than 30 per cent ad valorem.

§§ 1716 and 1772. Guaranteed exemption from customs duties for chemical wood pulp, mechanical wood pulp and standard newsprint paper.

The customs duties stipulated by the tariff agreement of 1936 stayed in force until the outbreak of the war. The agreement had been closed for a period of three years previously and preparatory negotiations for its renewal were going on, when the second World War began.[1] The greatest significance of the agreement was embodied in its guarantee as to exemption from customs duties on pulp and newsprint, since this group constituted the chief part of Finland's exports to the USA. Also the other branches of Finland's forest industries were able to devote themselves with greater security to the American market, since the duties were fixed for a number of years to come. This was of vital importance particularly for the board industry, since the factories in the USA had to have guarantees for uninterrupted deliveries. The possibilities for exporting birch plywood that the lowering of the duties opened up, could not be taken advantage of to any extent worth mentioning. The market for thread spools was practically closed for Finnish spools as long as the prohibitive customs duty of 33 1/3 per cent was in force. Sample deliveries had been realized, but the quantities were insignificant as is shown by the following figures:

1933— 8 tons
1934—20 »
1935—16 »

Through these deliveries it had been possible to ascertain, that sales possibilities existed. The lowering of customs duties that took place in 1936 was exeedingly welcome, since Finland's thread spool industry had great difficulties in finding markets after the drying up of the Russian market.[2] Taking also into consideration the fact that thread spools are to be looked upon as a kind of raw material for the producers of thread and that they are manufactured according to particular specifications for each order and consequently cannot be dumped, this article was believed to possess further possibilities for extention on the American market. The tariff cut granted was, nevertheless, not sufficient; on the Finnish side hopes had been enter-

[1] Compare Procopé letters of July 7th and 20th 1939 to the Finnish Foreign Office.
[2] Finland controlled at this time 85—90 per cent of the international thread spool trade, while the domestic market absorbed about one per cent of the production.

tained that the customs duty would be lowered to ten per cent ad valorem. This would have been advantageous chiefly for the textile manufacturers in the USA.

The lowering of the customs duty on plywood to 33 $^1/_3$ per cent was restricted to birch plywood, since the Russian exports to the USA embraced chiefly plywood of alder. The high duty retained on finer kinds of paper was of minor importance, since special paper is produced only by one Finnish mill, and there were no plans as to an increase of the production.

Besides the direct financial sales difficulties caused by the tariff stipulations Finland's exporters also had other worries in connection with paying of the duty. According to sec. 304 of the Tariff Act of 1930 the marking of the imported articles was stipulated as follows:

a) Manner of Marking. — Every article imported into the United States, and its immediate container, and the package in which such article is imported, shall be marked, stamped, branded, or labeled, in legible English words, in a conspicuous place, in such manner as to indicate the country of origin of such article, in accordance with such regulations as the Secretary of the Treasury may prescribe. Such marking, stamping, branding, or labeling shall be as nearly indelible and permanent as the nature of the article will permit. The Secretary of the Treasury may, by regulations prescribed hereunder, except any article from the requirement of marking, stamping, branding, or labeling if he is satisfied that such article is incapable of being marked, stamped, branded, or labeled or can not be marked, stamped, branded, or labeled without injury, or except at an expense economically prohibitive of the importation, or that the marking, stamping, branding, or labeling of the immediate container of such article will reasonably indicate the country of origin of such article.

In case this requirement was not satisfied, the goods were detained until they had been marked in accordance with above instructions, besides which an additional customs duty of ten per cent of the value was levied.[1]

Almost without exception the products of the forest industries are such that they cannot be marked without enormous costs, so that the marking of the immediate container ought to be altogether sufficient. Since this, however, is a question of interpretation, it has not been possible to avoid discord on the subject. Amongst other things the American Custom-house authorities required that each thread spool should be marked »Made in Finland», which fact, besides the high duty, made exports a losing business. Finland did not succeed in getting this extreme interpretation abolished until 1931 after eight years of negotiations. In 1934 the Custom-house authorities on the basis of this decree further demanded that each sheet of pulp board and paper board should also be marked »Made in Finland». Evidently the American producers of board were behind this action, trying thereby to avoid Finnish competition.[2] Through negotiations even this menace to Finland's exports of board was partly averted.

[1] Compare Tariff Act of 1930 sec. 304 b p. 109.

[2] Compare the letter No 2396 dated November 16th from Finland's Legation in Washington to the Finnish Foreign Office. Further Berättelse över Finska Träsliperiföreningens verksamhet under år 1935 p. 8 and concerning the perforation of wood pulp Stenström 1935 p. 131.

The stipulations concerning indication of origin were altered and extended by the terms of the Customs Regulations of 1937, in a disadventageous sense insofar as each imported square of plywood had to be marked. This interpretation of the law not only made the packing more expensive and delayed it, but was even directly destructive to the goods, since they are ready cut to size as shipped to the USA. According to the Treasury Department's decisions of August 22nd 1938, April 1st 1939 and June 21st 1939 a number of enumerated articles were then established, amongst which paper and wood pulp, as being exempt from the regulation concerning indication of origin.[1] Plywood, on the other hand, continued to be the subject of negotiations, when the outbreak of the war made the matter of less immediate interest. The requirements as to indication of origin did not cause any real harm to the Finnish exports, but we have to note the fact that an advantage obtained by mutual reductions of customs duties at commercial negotiations can be frustrated by such questions of interpretation.

Also the concept, ad valorem, according to USA customs duties, is to a very great extent dependent on the arbitrary interpretation of the Custom-house officers. In the first place, the domestic market price of the exporting country or the export price of the producing country is used, depending on which of them is higher. In case the Custom-house officer does not consider either of these values appropriate, the levying of the duty is based on the sales price of the goods in the USA, or, if this value also is not considered applicable, on the costs of production. Since almost all the duties on products of the forest industries are levied ad valorem, there are possibilities for great differences of interpretation.

A scrutiny of the Finnish-American customs duty policies shows that no greater frictions have occurred. Since the value of Finnish exports amounts to 25—30 per cent of the total production of the country, peace in matters of customs duty and the greatest possible degree of free trade have always been the guiding principles for Finland's trade policies.[2] From 1934 on, when the Trade Agreement Act was accepted, the USA have also adhered to the same policy. We proved the fallacy of the accusations as to currency and price dumping brought forth from the American side. Nor did the authorities of the USA themselves after careful investigation find any reason for measures in connection with the complaint filed by the American Newsprint Manufacturers under Section 3 e of the National Industrial Recovery Act concerning Canadian and Swedish newsprint. The post-war trade policies will be touched upon in another connection in the following.[3]

[1] If wrapping existed, it should, however, be marked.

[2] This does not prevent that certain customs duties for new industrial branches could be considered necessary from an educational point of view. Compare Tullirauha Suomen kannalta, 1930 p. 55.

[3] See p. 123.

The forest industries of the USA and its resources of raw materials.

The imports of products of the forest industries to the USA is, in the first place, dependent on the possibilities of the American industries to themselves supply the domestic demand. The long period of war has brought profound rearrangements in this respect, of which it is still difficult to obtain a general view.

The products of the pulp and paper industry have always been the chief and most important imports, so that the other branches of the forest industries are interesting chiefly from the point of view of the consumption of raw materials. A survey of the industries at the end of the 1930:ies seems to be the most appropriate background for a summing-up of rearrangements during the war years.

The pulp and paper industry of the USA can at present most appropriately be divided into four regions, viz. the Northeastern, the Lake and Central, the Southern and the Pacific coast. The oldest of these — the Northeastern — was still before the war the most important producer of pulp and paper products. The paper manufacture has extended practically over the entire region, while the manufacture of wood pulp is chiefly concentrated within the states of Maine, New York, Pennsylvania, and New Hampshire. The pulp manufactured consists chiefly of sulphite and ground wood pulp.

The wood pulp industry of the Lake and Central region is concentrated in the states of Michigan, Wisconsin, and Minnesota, while the manufacture of paper takes place mostly in the Northern states. The production of sulphite pulp predominates in this region also, although even sulphate and ground wood pulp are manufactured in considerable quantities.

The industries of the Pacific coast passed through a period of powerful expansion in the beginning of the 1930:ies, so that an excess production of sulphite pulp ensued there; this was either shipped to the Atlantic coast or exported to Japan.[1] The production of pulp is concentrated in the states of Washington and Oregon, where the greatest resources of raw material are found.

Without any doubt, the development of the industries in the Southern states during the 1930:ies saved the USA from a considerable increase of imports, espe-

[1] The expansion was caused by the fact that the technical difficulties of using the Western hemlock for the production of pulp had been overcome. Compare Curran and Behre 1935 p. 2.

cially of sulphate pulp. At the time of the outbreak of the war this manufacture had held a completely dominant position in the production of the USA. This pulp, nevertheless, was converted within the region so that scarcely any shipments to the north took place.

At the outbreak of the war, the development had thus led to a greater and greater transfer of pulp manufacture to the South and to the Pacific coast. The U. S. Tariff Commission wrote about it:[1] »Broadly speaking, the great increase in the production of pulpwood in the South, principally Southern pine going into sulphate, combined with the smaller but still large increase in production on the Pacific coast, consisting

Table 36. USA wood pulp production and consumption of the several kinds by regions.

USA:n hiokkeen ja selluloosan tuotanto ja kulutus alueittain.

(1 000 tons) — *(1 000 tonnia)*

	1929 Production *Tuotanto*	1935 Production *Tuotanto*	1935 Consumption *Kulutus*	Excess of production (+) consumption (—) *Tuotannon ylijäämä (+) tai vajaus (—)*
Northeastern region. — *Koillinen alue.*				
Sulphite pulp — *Sulfiittiselluloosaa*	712	546	1 135	— 589
Sulphate pulp — *Sulfaattiselluloosaa*			314	— 314
Ground wood pulp — *Hioketta*	909	723	817	— 94
Total — *Yhteensä*	1 974	1 510	2 508	— 999
Lake and Central region. — *Keskinen alue.*				
Sulphite pulp — *Sulfiittiselluloosaa*	417	336	823	— 487
Sulphate pulp — *Sulfaattiselluloosaa*	221	197	386	— 190
Ground wood pulp — *Hioketta*	348	258	337	— 80
Total — *Yhteensä*	1 041	846	1 646	— 800
Southern region. — *Eteläinen alue.*				
Sulphite pulp — *Sulfiittiselluloosaa*	93	57	140	— 83
Sulphate pulp — *Sulfaattiselluloosaa*	479	963	1 006	— 44
Ground wood pulp — *Hioketta*	5	15	17	— 2
Total — *Yhteensä*	689	1 187	1 274	— 87
Pacific coast region. — *Länsirannikon alue.*				
Sulphite pulp — *Sulfiittiselluloosaa*	310	507	223	+ 284
Sulphate pulp — *Sulfaattiselluloosaa*	126	172	184	— 12
Ground wood pulp — *Hioketta*	223	234	246	— 12
Total — *Yhteensä*	709	943	683	+ 260
All regions. — *Kaikki alueet.*				
Sulphite pulp — *Sulfiittiselluloosaa*	1 532	1 446	2 321	— 875
Sulphate pulp — *Sulfaattiselluloosaa*	826	1 332	1 891	— 559
Ground wood pulp — *Hioketta*	1 486	1 230	1 418	— 188
Total — *Yhteensä*	4 412	4 485	6 111	— 1 626

[1] U. S. Tariff Commission 1938 p. 33.

principally of Western hemlock and white fir going largely into sulphite pulp, have substantially offset the failure of the older pulpwood regions, the Northeastern and the Lake States, with their depleted stands of spruce and balsam fir, to keep pace with their increasing demands for paper materials.»

The Northeastern as well as the Lake and Central regions have steadily lost in importance, a development that was chiefly caused by the lack of resources of raw materials. Instead of the previous primeval forests that had been cut down, quite extensive deciduous woods have grown up in these regions and are to some extent used as pulp wood. The total quantity of pulp manufactured from the wood of deciduous trees amounted to about 100 000 tons annually in the past few years, and was chiefly exploited by the large mills manufacturing printing paper. Table 36 gives an idea of the pulp production of the four regions in 1929 and in 1935.[1]

The most characteristic trait is the considerable lack of pulp wood as well as of pulp and of paper in the Northeastern and the Lake and Central regions. The need for white paper and raw materials for it is met by imports of pulp wood, sulphite, and newsprint.[2] In the case of wrapping paper and board the want is met by imports of sulphate pulp from abroad as well as of Kraft paper and board delivered by the Southern states. In 1929 the proportional share of the Northeastern and the Lake and Central regions in the total pulp production of the USA was respectively 45 and 24 per cent, but in 1935 only 33 and 19 per cent respectively. This geographic transfer of the pulp and paper industry on a large scale is still going on and causes considerable inner structural changes that will influence the future imports from Europe.[3]

Concerning the inner organization of the pulp and paper industry the following should be noted. The industry comprises very small as well as very large plants which often compete keenly with one another. The manufacture embraces mass products as well as special articles of variable nature. Among the pulp mills a wide horizontal integration has taken place. On the other hand three quarters of the mills producing paper and board are vertically integrated with pulp mills, so called self-contained mills. The remaining quarter on the contrary, is dependent on purchases of pulp, so called converting mills. The advantages of vertical integration are, as we know, that the pulp can be worked further without being baled or dried, which is necessary in case of transportation to another locality. On the other hand, these advantages are counterbalanced by high costs of transport of the ready made product to the center of consumption, since the sources of raw materials needed for the manufacture naturally are easier to obtain in wooded districts. The supply of waste paper, for instance, has in many cases been decisive for the final location

[1] U.S. Tariff Commission 1938 p. 11. Compare also Streyffert 1936 p. 5.
[2] The imports of sulphite pulp partly takes place from the Pacific coast. Compare p. 14 and 76.
[3] Compare the transfer of the textile industries from the eastern states to the cotton producing states of the Middle West.

of a factory. In the USA[1] these factors, counterbalancing one another, have caused the manufacture of such products as are mass-manufactured according to the same specification, as for instance newsprint, coarse wrapping paper and Kraft board, to be confined almost entirely to integrated mills. More specialized grades which require varying pulp or are strongly mixed with other material are on the contrary produced at independent mills. A certain general integration has also occurred, though not nearly to such an extent as in the Scandinavian countries. This integration has chiefly consisted in a decline of the importance of the sawmill industry in proportion to more advanced forest industries. The consumption of lumber per person has been declining ever since the beginning of the twentieth century.[2]

The spheres of interest of the self-contained and the converting mills naturally diverge rather much in certain cases. While the converting mills are thus interested in abundant and undisturbed imports of pulp, the self-contained mills during the 1930:ies made several attacks in order to introduce customs duties or other curtailment of imports.[3] The existence of the converting mills is an important circumstance to note when judging the future imports of products of the pulp and paper industry into the USA. The degree to which the years of war have had a disadvantageous influence on the essential conditions of the converting mills will be examined in a later connection.

As to the conditions of ownership of the pulp industries, the investigation made in 1938 on behalf of the United States Senate showed that 154 pulp mills representing (1935) 93 per cent of the total production were owned by 92 companies. There were four large companies controlling 45 pulp mills besides 51 integrated or independent paper mills etc.[4] In spite of the strong opinion in the USA against combines a considerable concentration of ownership has occurred.

The costs for the production of pulp in the USA have always been high compared to European conditions, and this fact has naturally been the basic assumption allowing the European pulp and paper industry to compete on the American market. The table overpage gives the average costs of production for sulphite, sulphate and ground wood pulp in 1935.[5]

The table shows the advantageous position with respect to costs of production of the industry of the Southern states at the time as compared to the other regions.[6] The total costs for the manufacture of sulphate in the South were less than two thirds of those of the Lake and Central region and comparable to the costs for the manufacture of ground wood pulp in the other regions. A direct comparison with the corresponding costs of production in Finland can be made, it is true, but is void of

[1] The integration occurring in Scandinavia is more of a horizontal character as is natural. Compare Lundgren 1932 p. 223.
[2] Compare A National Plan .... 1933 p. 248.
[3] Compare p. 40 and 102.
[4] U. S. Tariff Commission 1938 p. 15.
[5] U. S. Tariff Commission 1938 p. 16.
[6] Concerning the war time influence see p. 129.

Table 37. Average costs of unbleached sulphite, sulphate and ground wood pulp production in the USA. ($ per short tons).
Valkaisemattoman sulfiitti- ja sulfaattiselluloosan sekä hiokkeen keskimääräiset tuotantokustannukset USA:ssa ($/short ton).

	Northeastern region *Koillinen alue*	Lake and Central region *Keskinen alue*	Southern region *Eteläinen alue*	Pacific coast region *Länsirannikon alue*
Sulphite — *Sulfiittiselluloosa.*				
Wood — *Raaka-aine*	20.30	19.68	—	10.91
Conversion — *Jalostuskustannukset*	16.14	17.22	—	14.78
Total — *Yhteensä*	36.44	36.90	—	25.69
Total, incl. interest — *Yhteensä kuoletuksineen*	38.86	39.41	—	28.07
Sulphate — *Sulfaattiselluloosa.*				
Wood — *Raaka-aine*	—	14.89	6.71	7.93
Conversion — *Jalostuskustannukset*	—	19.31	14.64	15.26
Total — *Yhteensä*	—	34.20	21.35	23.19
Total, incl. interest — *Yhteensä kuoletuksineen*	—	36.59	22.64	26.16
Ground wood pulp — *Hioke.*				
Wood — *Raaka-aine*	10.11	8.94	—	6.39
Conversion — *Jalostuskustannukset*	8.27	12.27	—	11.83
Total — *Yhteensä*	18.38	21.21	—	18.22
Total, incl. interest — *Yhteensä kuoletuksineen*	20.04	24.67	—	20.61

scientific value. The differences in wage levels, standard of living etc. were too great, not to speak of the great currency fluctuations in the 1930:ies.

It is impossible to say how the conditions are going to be after the war, but on the surface the wages and the costs of raw materials in Finland would seem rather exaggerated compared to the rather stable war economy of the USA. During 1939—41 the price level in the USA rose only to the following extent:

Foods	48	%
General articles of consumption	20	»
Costs of living	7	»

In the beginning of 1942, a general price stop was carried through, which, however, did not become fully effective, since the wages continued to be regulated upwards. In August 1943, the costs of living had risen by 26 per cent, after which there does not seem to have occurred any further rise.[1]

The war time influence on USA's industries was partly of a temporary and partly of a more permanent nature. The temporary influence brought on by the war economy in the form of restrictions on raw materials and prices are of little interest for the future development and will, therefore, be touched upon only in passing.

At the outbreak of the war in 1939 the American pulp and paper industry was faced with a serious situation. Compensation had to be obtained for the European

[1] Compare U.S. Department of Commerce 1944 p. 398—411. Further Hufvudstadsbladet 1945 September 7th, also Prisläget i Sverige och Amerika, 1945 p. 44. The increases in wages have fluctuated between 20—40 %.

imports, which in 1939 amounted to 1.6 million tons. Already towards the end of the following year a practically total exclusion from the North European market set in. The imports of newsprint during 1940 amounted to scarcely 30 000 tons, chiefly from Finland, and the pulp import dropped to 300 000 tons. The situation was saved by running older mills, which not being profitable had been shut down, and by further increasing plant capacities in the Southern states and on the Pacific coast. Besides this, the working hours were increased by working also on holidays, and waste paper was recovered to a greater and greater extent, thanks to an effective propaganda.[1] The new constructions and enlargements that had been completed during the years of war were all completed before the USA themselves entered the war in the autumn of 1941. Already towards the end of the year, the restrictions touching metals and mechanical workshops in regard to other than war purposes made all new erections impossible and caused the cancelling of some factories that had been planned in the South.

The war time development brought on an extensive government interference in many industries. In some spheres of activity the concerns owned by the state gained an entirely dominating position. Browaldh wrote about it:[2] »För närvarande behärskar sålunda staten 100 procent av Förenta Staternas totala produktion av syntetiskt gummi och högoktanvärdig flygbensin, 92 procent av all magnesium produktion, 90 procent av alla flygplansfabriker samt 50 procent av all produktion av aluminium och verktygsmaskiner.» (At present therefore, the government controls 100 per cent of the USA production of synthetic rubber and high-octane aviation gasoline, 92 per cent of the total magnesium output, 90 per cent of all airplane factories, and 50 per cent of the total production of aluminium and tool machinery.) Available information concerning the degree to which the forest industries were subject to direct state control indicates that they had rather free hands in the beginning. In March 1941 compulsory licence was introduced for exports of pulp to certain countries, and later on the same control was extended to all paper products. In the beginning of 1942, matters had developed to the point where the War Production Board decreed that the pulp and paper industries should be entirely under its control from May on.[3] Under any circumstances this government interference will be wound up as soon as possible after the war. Utterances by all the important institutions for post-war planning in the USA indicate this, as for instance those of the Chamber of Commerce of the United States, the Committee for Economic Development and the National Planning Association etc. Berge wrote about this:[4] »We have been willing to subject ourselves to all kinds of governmental controls over American business in order to win this war. When the war is

[1] Compare Asplund 1943 p. 149.
[2] Browaldh 1945 p. 31. Compare also Höglund 1945 p. 41.
[3] For more detailed information concerning WPB's restrictions in the pulp and paper industry compare Hyer 1944 p. 60.
[4] Berge 1944 p. 235.

over, these controls must go, and as soon as possible.» Also Ohlin states:[1] »Å andra sidan tycks man i Förenta Staterna — och det förefaller som det skulle gälla även den nya utrikesministern Stettinius — vara inställd på att successivt avskaffa krigstidens handelspolitiska metoder.» (On the other hand, the general trend in the USA — and that seems to be true even of the new Secretary for Foreign Affairs, Stettinius — seems to be toward consecutive elimination of wartime trade-political methods.) This does not eliminate the necessity for a period of transition during which the restrictions are retained in view of the fact that stocks were almost non-existent. The demobilization of wartime economic control is calculated to last as long as 2—3 years in some cases.[2]

In respect to organization the war will only have brought about a concentration of ownership on a few larger companies. The expansion of the productive machinery during the war has, namely, strengthened the tendency toward greater industrial concentration. Even the difficulties in supplying raw materials have favoured the large companies, since they have laid hands on the best sources of raw materials; they will dominate also in the future. The war seems further to have influenced the financing of the companies to a certain extent. The rigorous taxation of the profits of the limited companies during the war caused a distortion of the position taken up by the entrepreneurs in respect to price policy and investment. Through this the companies have gone over more and more to taking up capital in the form of loans instead of emitting shares. This increase in the rigidity of the economic system in its entirety and the decrease in its adaptability to structural changes can entail quick, disastrous concequences in case of a serious economic depression.

The position of the wood pulp mills at the moment when the USA entered the war was as follows:[3]

Table 38. The number and the geographical division of the chemical wood pulp mills in 1941.
Selluloosatehtaitten lukumäärä ja maantieteellinen jakaantuminen vuonna 1941.

	Sulphite *Sulfiitti-tehtaat*	Sulphate *Sulfaatti-tehtaat*	Soda *Soodateh-taat*	Total *Yhteensä*
Northeastern region — *Koillinen alue*	35	1	16	52
Lake and Central region — *Keskinen alue*	22	10	3	35
Southern region — *Eteläinen alue*	4	31	5	40
Pacific coast region — *Länsirannikon alue*	20	4	2	26
	81	45	26	153

[1] Ohlin 1945 a p. 13. Compare also Browaldh 1945 p. 31: »Till slut bör emellertid framhållas att hittills ingen ansvarig instans framfört förslag att staten efter kriget själv skulle driva anläggningar i konkurrens med de enskilda företagen.» (In conclusion we must, however, point out that so far no responsible instance has proposed that the government shall itself run industrial plants after the war in competition with private enterprise.)

[2] Compare National Resources Planning Board 1943 p. 33. Revocation of the Wood Pulp Conservation Order M-93 became effective September 30th 1945. Compare Cook 1945 p. 28.

[3] Asplund 1941 p. 107.

On account of reasons which have already been touched upon, practically no increase of capacity took place after 1942.

The actual production of wood pulp is shown by the following figures.[1]

Table 39. The production of wood pulp in the USA in 1930—44.
USA:n selluloosan ja hiokkeen tuotanto vv. 1930—44.
(1 000 tons) — *(1 000 tonnia)*

	Sulphite[2] *Sulfiittiselluloosaa*	Sulphate *Sulfaattiselluloosaa*	Mechanical[3] *Hioketta*	Total[4] *Kaikkiaan*
1930	1 422	862	1 415	4 200
1931	1 286	938	1 315	4 000
1932	1 040	934	1 091	3 411
1933	1 205	1 142	1 087	3 879
1934	1 312	1 130	1 177	4 024
1935	1 433	1 332	1 230	4 469
1936	1 653	1 628	1 339	5 103
1937	1 941	1 941	1 452	5 963
1938	1 457	2 216	1 209	5 383
1939	1 765	2 688	1 311	6 344
1940	2 366	3 400	1 672	8 129
1941	2 648	4 107	1 952	9 412
1942	2 658	4 298	2 052	9 770
1943	2 211	3 843	1 932	8 734
1944	2 166	4 106	1 413	8 516

The wood pulp production of the USA was increased at an accelerated pace from 1939 to 1942, when the present culminating point was reached. After 1942 the lack of labour and resources of raw materials has made itself more and more felt. In 1942 the mills worked at 90 per cent of their calculated total capacity. Compared to the peak of 1937 there was an increase in the production of all pulp by nearly four million tons. By far the greatest increase falls to the share of sulphate pulp, which increased from 1.9 million tons in 1937 to 4.3 million tons in 1942, that is to say by 125 per cent. At present the total annual capacity of the pulp industries amounts to about ten million tons. As to the different grades, it may be noted that the bleached sulphite deteriorated notably during the war on account of the restrictions as to the use of chlorine. The production of unbleached sulphite increased with 300 000 tons, chiefly on account of new erections on the Pacific coast and extensions in the Lake states and in the Eastern states. The consumption remained rather constant, partly since imported pulp was not to be had to the same extent as previously and partly since bleached sulphate had been used in greater quantities.

The figures for the paper production in the USA show the following development.[5]

[1] Wood Pulp Statistics 1944 p. 2 and 3.

[2] Includes dissolving pulp.

[3] Includes ground wood pulp, defibrated, exploded and asplund fiber.

[4] Includes soda, semi-chemical grades and screenings.

[5] U. S. Department of Commerce, Bureau of Census.

Table 40. Paper production in the USA in 1930—44.
USA:n paperin tuotanto vv. 1930—44.
(1 000 tons) — *(1 000 tonnia)*

	Paperboard *Pahvia*	Newsprint *Sanomalehtipaperia*	Wrapping *Käärepaperia*	Total *Kaikkiaan*
1930		1 163		9 225
1931		1 050		8 511
1932		915		7 256
1933		858		8 337
1934		872		8.334
1935	4 260	827	1 481	9 507
1936	4 949	836	1 705	10 865
1937	5 264	858	1 862	11 655
1938	4 630	744	1 693	10 325
1939	5 538	865	2 031	12 256
1940	5 942	919	2 269	13 140
1941	7 620	960	2 520	16 114
1942	7 229	865	2 462	15 499
1943	7 792	730	2 270	15 455
1944	8 128	654	2 322	15 588

The shift in favour of the board production shown by these figures has its natural explanation in the need of packing material for the army. As soon as the Lend-Lease Act was passed in the beginning of 1941, the need of board and board containers increased enormously, and the production of paperboard for the first time exceeded the total tonnage of all kinds of paper. As to the real paper production the total increase of capacity since 1937 shows a gain of 18 per cent. The production of newsprint in the Northern states of the USA has for many years not really been a paying business and the production has decreased in consequence. At present a certain stabilization seems to have occurred, the least economic mills having been weeded out. The hopes for a renewed increase in production in connection with the rise of the newsprint industry in the Southern states had to be abandoned, since the efforts made had clearly shown that, with the methods of manufacture known at present, newsprint made of the pine of the Southern states does not meet the grade requirements of the American presses. The detailed analysis made by Guthrie in respect of the newsprint industry shows that Quebec, Ontario, and the Pacific coast have the lowest costs of production, and evidently will dominate the manufacture of newsprint.[1] On the East coast and in the Lake states the costs of wood are too high to enable mills there to compete in the manufacture of low grade paper, and a further decrease is therefore probable. The transition to the manufacture of higher grades of paper is facilitated by the fact that these antiquated paper machines are more appropriate for a slow run.[2] The demand made during the war years for the lowering of the basic weight in order to obtain a larger press surface must be

[1] Guthrie 1941 p. 150.
[2] Compa e Streyffert 1936 p. 26.

considered a phenomenon of the war. Wrapping paper shows the greatest increase of capacity, namely more than 40 per cent since 1937. Also the production of tissue-paper has greatly increased, but this increase must to a very high degree be ascribed to army deliveries. In spite of this enormous increase in pulp as well as paper production during the war the balance between supply and demand was disturbed to such an extent that in almost all departments recourse had to be taken to rationing and compulsory distribution.[1] This circumstance can be accounted for partly by the enormously increased need of paper products for armaments, partly by the acute lack of labour, and partly by the diminished imports from Northern Europe. The following tables shows to what extent the USA have been dependent on imports of pulp and paper products.[2]

Table 41. Pulp imports to the USA in 1930—44.
USA:n selluloosan ja hiokkeen tuonti vv. 1930—44.
(1 000 tons) — *(1 000 tonnia)*

	Sulphite *Sulfiittiselluloosaa*	Sulphate *Sulfaattiselluloosaa*	Mechanical *Hioketta*	Total *Kaikkiaan*
1930	1 003	383	271	1 660
1931	874	380	191	1 448
1932	832	339	171	1 344
1933	1 061	506	191	1 762
1934	974	486	171	1 638
1935	1 018	554	172	1 754
1936	1 178	670	207	2 067
1937	1 299	666	198	2 173
1938	929	470	144	1 551
1939	1 030	593	207	1 838
1940	659	279	155	1 111
1941	683	160	180	1 051
1942	749	135	200	1 113
1943	756	137	188	1 139
1944	650	132	165	962

In 1935—39 the USA imported on an average nearly two million tons of pulp annually, more than half of which sulphite. When the war operations made any further imports from the North of Europe impossible, Canada delivered about 1.1 million tons annually. The strongest decrease in imports falls to the share of sulphate pulp on account of reasons that have been touched upon above.

The imports of paper (table 42) in 1935—39 amounted on an average to 2.5 million tons, practically exclusively newsprint. During the war, Canada was able to increase her exports of paper to the USA by somewhat more than 200 000 tons. A very interesting and significant feature of the American trade in pulp and paper products is the tendency towards increased exports (table 43).

[1] Compare Jansson and Kulvik 1945 p. 22.
[2] U. S. Department of Commerce, Bureau of Census.

Table 42. Imports of paper to the USA in 1930—44.[1]
USA:n paperin tuonti vv. 1930—44.
(1 000 tons) — *(1 000 tonnia)*

	Total *Kaikkiaan*	Of which newsprint *Sanomalehtipaperia*
1930	2 146	2 068
1931	1 938	1 875
1932	1 677	1 625
1933	1 680	1 627
1934	2 055	2 005
1935	2 229	2 162
1936	2 590	2 497
1937	3 116	3 009
1938	2 138	2 063
1939	2 452	2 209
1940	2 565	2 519
1941	2 830	2 705
1942	2 744	2 550
1943	2 466	2 286
1944	2 342	2 177

Table 43. Exports of pulp and paper from the USA in 1930—44.[2]
USA:n selluloosan ja paperin vienti vv. 1930—44.
(1 000 tons) — *(1 000 tonnia)*

	Pulp *Selluloosaa*	Paper *Paperia*
1930	44	196
1931	48	155
1932	44	108
1933	72	115
1934	130	148
1935	154	161
1936	175	163
1937	293	210
1938	127	189
1939	127	241
1940	436	524
1941	298	445
1942	343	454
1943	273	454
1944	167	312

Japan has been the chief market, later also South America and England. In a later connection we shall return to the question of the pulp and paper exports from the USA.[3]

[1] U. S. Department of Commerce, Bureau of Census.
[2] U. S. Department of Commerce, Bureau of Census.
[3] See p. 130.

Even assuming a decrease in the productive capacity as a natural sequence of the return to peace time conditions, it is difficult to judge the relation between the increased demand on account of the war and the share of a normal peace time consumption that was temporarily tied up.[1] In other words, what proportions will the need of the American market have, when deliveries to the army have ceased. This question will be analysed in more detail in the next chapter.

As to the resources of raw materials of the American forest industries, it is first of all to be noted that the idea concerning a menacing lack of wood in the near future, which originated in connection with the great devastation of forests towards the end of the 1890:ies and at the beginning of the 20th century, has now been definitely abandoned. As late as the beginning of the 1920:ies C a r b o n n i e r wrote:[2] »Det råder intet tvivel därom, att Förenta Staterna går mot en katastrof, om ej en snar ändring sker.» (There can be no doubt that the United States are heading for a catastrophy unless a change is made soon.) Also B r o w n stated:[3] »It is very apparent that the timber supplies in the Northwest, representing the last available virgin source of material for the industry, will be exhausted within a comparatively short period of time. After that the industry must resort to second growth entirely.»

At that time Z o n and S p a r h a w k indicated that the yearly cut amounted to 0.69 billion m³ (24.3 billion cub. feet) and the annual growth to 0.17 billion m³ (6.0 billion cub. feet). In the beginning of the 1930:ies the total forest area of the USA was calculated to be 246 million ha (615 million acres). The total volume of the timber in its turn was calculated to amount to 16.60 billion m³ (587 billion cub. feet), of which 6.48 billion m³ (229 billion cub. feet) saw-log material. The timber balance of the time was as follows:[4]

	million m³	million cub. feet.
Timber cut	411	14 495
Fire losses	25	871
Other losses	28	985
	464	16 351
Annual growth	252	8 912

According to these calculations the total consumption still heavily exceeded the growth. But, as S a a r i has shown, the figures quoted here gave an unnecessarily pessimistic idea of the situation.[5] Without venturing upon a more detailed scrutiny

[1] The normal stocks in peace time amounted to the needs of 2—4 months on hand and of 30 days on docks. In order to fill these stocks 300 000 tons were needed on docks and 400 000 tons at the mills.
[2] Carbonnier 1922 p. 84.
[3] Brown 1923 p. 23.
[4] According to A National Plan . . . 1933 p. 207 and 221. Compare information in U. S. Forest Service 1920, where the total annual consumption during the period 1910—19 is calculated at 26 billion cub. feet.
[5] Saari 1934 p. 4 and 5.

of the methods of calculation employed, it can be stated that the calculated growth does not even amount to 1.02 m^3 per ha (15 cub. feet per acre), while the corresponding growth, for instance in Finland, is 1.84 m^3 per ha (43 cub. feet per acre).[1] Since the remaining virgin forest areas in the USA are relatively small, the above estimate cannot tally with actual conditions in consideration of the better climatic growth conditions in the USA. Previous erroneous estimates as to the American resources of raw materials have evidently depended to a great extent on the fact that the regrowth on the devastated areas had been miscalculated or had not been taken into consideration at all. In 1941, the writer had the opportunity of seeing wide areas in northern Idaho that had previously been covered with Pinus monticola, which the lumber companies had cut with their notorious thoroughness; in spite of this, these areas showed an astonishingly vigorous regrowth that had already attained pulp wood dimensions. A more detailed idea of the timber consumption in 1920 and 1936 is obtained from the following table.[2]

Table 44. Timber cut for commodity use, and fire and insect damage losses in commercial forests of the USA.
Hakkuumäärät sekä kulojen ja hyönteisten aiheuttamat tuhot USA:n metsissä.

	1920		1936	
	million m^3 *milj. m^3*	million cub. feet *milj. j^3*	million m^3 *milj. m^3*	million cub. feet *milj. j^3*
Lumber — *Sahapuuta*	252	8 913	152	5 368
Fuel wood — *Polttopuuta*	305	10 450	103	3 619
Pulp wood — *Paperipuuta*	15	532	20	706
Hewed ties — *Veistettyjä ratapölkkyjä*	30	1 050	10	354
Fence posts — *Aitapylväitä*	51	1 800	9	327
Veneer logs — *Vaneeripuuta*	3	120	7	252
Mine timber, round — *Kaivospuuta*	9	325	5	161
Cooperage stock — *Kimpiä*	7	264	4	149
Shingles — *Päreitä*	6	195	3	109
All other uses — *Muu käyttö*	19	670	10	354
Total timber cut — *Koko hakkuumäärä*	689	24 319	323	11 400
Fire losses — *Kulovauriot*	31	1 080	24	862
Insect and disease losses — *Hyönteis- y.m. tuhot*	18	650	34	1 201
Estimated total loss — *Arvioitu kokonaistappio*	49	1 730	58	2 063
Aggregate — *Yhteensä*	748	26 049	381	13 463

According to estimates the total annual cut has during the last 20 years decreased to about the half of what it was. The corresponding data as to regrowth, taken from three estimates made by the Forest Service (in 1920, 1924—29, and 1936—) show, on the other hand, a progressive increase. This can only partly be attributed to an improvement in the methods of survey. The result is chiefly due to an actual increase

[1] Ilvessalo 1942 p. 134.
[2] U. S. Forest Service 1920 and U. S. Forest Service Statistics.

in second growth, caused by better forestry and more prudent logging operations. In 1936 this increase was estimated at 0.32 billion m^3 (11.3 billion cub. feet) with a corresponding total drain of 0.39 billion m^3 (13.5 billion cub. feet). As shown above, two billion cub. feet were taken into account as being lost through fire and insects. Measures taken in order to lessen these losses would in fact influence the regrowth very much, since forest fires occur in the rapidly growing forests in the South and, generally speaking, in second growth forests. Taking into consideration the remaining areas of virgin forest, there would seem to be no danger for the forest balance, as far as can be estimated from growth and cut figures.

A direct comparison of growth and drain can, however, as Saari has shown, be very deceptive.[1] Such a basis for comparison gives no real picture of actual conditions affected the whole growing stock. The USA are calculated still to possess about 40 million ha (100 million acres) of virgin forest in a state of static growth balance. In order to obtain a better picture of the changes in the forest balance we must either compare the results of two successive forest surveys, or we must approach the problem from the point of view of the calculated cut that may be taken continuously. At present there are not, however, available sufficiently accurate figures to base such a calculation of the USA forest balance upon.

We must, moreover, include in our calculations not only the quantitative but also the qualitative changes in the forests. A considerable part of the growth consists, namely, of species that so far have not been industrially exploited. This is particularly the case in the Northeastern region, where the second growth often consists of hardwood instead of the softwood which had been cut. The technical progress brought about by extensive research activity can evidently lead to considerable changes in the situation. The growth of young forests which have a value only as pulp wood is also great.

During the last decades a steadily increasing comprehension of the necessity for planned forestry has begun more and more to penetrate to wider and wider circles in the USA, and ever since Roosevelt came to power the government has strongly supported this policy. Reforestration of large devastated areas has already been carried through, and planned and selective cutting gains more and more ground.[2] These new plantings on the cut-over areas as well as rational forestry are measures that will advantage a later generation. Since taxation of the forest industries has been increased, investments at long futurity in forests owned out right are a natural development.

In spite of the fact that resources of raw materials in the USA show rather satisfactory figures on the whole, the situation within the different regions varies

[1] Compare Saari 1937.
[2] Compare for instance PTJ 1944 No 11 p. 12. Compare also the extensive planting of timber in the state of Wisconsin, which is dependent on import from Canada to 25 per cent of its need of pulp wood.

a great deal. The resources of raw materials of the Northeastern and Lake regions have for a long time been subject to such large cuts that the remaining timber has not sufficed to meet the needs of the industries, so that imports have been necessary. The imported raw material for the manufacture of pulp in these regions amounted to 20—30 per cent of the whole at the end of the 1930:ies.[1]

The immense yellow pine region in the states around the Gulf of Mexico had, it is true, in the beginning of the 20th century been subject to the generally prevailing inconsiderate and careless working of the time, as for instance by the domestic building industry.[2] Nevertheless, this region seems to contain sufficient reserves for a pulp and paper industry of enormous size. According to information by the forestry authorities the ten Southern states from Virginia to Texas are to 60 per cent covered with forests, of which 50 to 70 per cent are pine and the rest decidous trees. The total resources of timber are estimated at 4 000 million m³, (141 200 million cub. feet) bark included.[3] The yearly growth of Southern pine is estimated at 100 million m³ (3 530 million cub. feet). In 1938 cut and growth were considered to be almost in equilibrium. About 12 million m³ (424 million cub. feet) of pulp wood were cut that year. The pulp mills so far thus consume only a small part of the total cut. In 1936 the distribution between the different forest industries was as follows: sawmills 47 per cent, fuel 32 per cent, sleepers 12 per cent and pulp wood 9 per cent.[4] The share of the pulp wood will doubtless increase, particularly since one can imagine that one part of the industries of the Northern states which have been buyers of Canadian pulp will be transferred to the South.

The regrowth in these districts is very rapid thanks to a nine months annual growing season. The timber attains a diameter of 8—10″ at D 1.3 within 20—25 years. Forestry in the full meaning of the word did not gain ground in these districts until the 1930:ies[5], and the sawmills are still rather uninterested, since on account of their greater mobility they are able to move more easily from place to place. It is believed that the growth per hectare can be increased to about 20 m³ (280 cub. feet per acre) annually and the period of rotation shortened to ten to twelve years through intensive forestry. The deciduous trees in this region are so far used to only a small extent, since, amongst other things, there are many species that cannot be floated and thus entail high costs of transport.

The Pacific coast is still rich in hemlock and white fir, both of which are suitable for pulp manufacture, while the Douglas fir is used chiefly by the sawmill industry. A considerable quantity of pulp is also produced from the refuse of the sawmill industry. The largest still unused forest reserves of the USA are to be found in the

[1] U. S. Tariff Commission 1938 p. 12.
[2] Compare Anstrin 1933 p. 550.
[3] Compare Murto 1942 p. 127.
[4] Young 1938 p. 332.
[5] In 1937 representatives of the pulp industries met at New Orleans and agreed to a conservation policy. In 1939 the Southern Pulpwood Conservation Association was founded.

virgin forest districts of Washington. The forests in the Northwest Pacific are estimated to contain 2.1 billion m³ (900 billion board feet) of standing saw timber or in other words about one half of what remains in the entire USA.[1]

The question as to whether the remaining resources of raw materials will suffice for the pulp and paper industry in the future also, when the whole need for timber is taken into consideration, was repeatedly an object of research in professional circles in the USA in the 1930:ies. The preponderately positive point of view arrived at in these researches is based chiefly on the progress of technical development and the possibilities thus opened up of using previously not exploited kinds of wood, as also on the increase of the annual growth that intensive forestry can bring about. Certainly neither in the manufacture of sulphite nor in that of ground wood pulp does the spruce any longer keep the same absolutely dominant position as previously. Balsam fir as well as hemlock and many hardwoods can now be placed on almost the same level as spruce. The increase in sulphate production is also of very great importance. Curran and Behre wrote about it:[2] »Since sulphate pulp can be made from almost any coniferous species, this indicate a further movement away from the dominance of spruce-fir-hemlock.» The following table showing the distribution of the consumption of pulp wood between the chief species of wood gives a clear idea concerning this matter.[3]

Table 45. Pulp wood consumption of the USA by kind.
USA:n paperipuun käyttö puulajeittain.
(1 000 cords)

	Total *Kaikkiaan*	Spruce — *Picea*		Pine *Pinus*	Hemlock *Tsuga*	Balsam fir *Abies*
		Domestic *Kotimaista*	Imported *Tuotua*			
1910	4 094	1 474	902	106	611	132
1920	6 114	2 566	922	323	886	329
1930	7 196	1 845	888	1 030	1 223	331
1931	6 723	1 651	676	1 295	1 185	339
1932	5 633	1 424	608	1 280	806	243
1933	6 582	1 495	576	1 560	1 113	262
1934	6 797	1 535	638	1 459	1 428	290
1935	7 628	1 755	626	1 785	1 521	299
1936	8 716	1 757	735	2 151	1 742	365
1937	10 394	2 011	827	2 659	2 302	320
1938	9 194	1 447	832	3 261	1 714	322
1939	10 816	1 568	907	3 835	2 219	284
1940	13 743	2 046	963	5 013	2 636	389
1941	15 678	2 034	1 303	5 950	3 150	420

The following figures in per cent of the total consumption are obtained for the three principal kinds.

[1] Compare Forest Resources of the Pacific Northwest, 1938 p. 1.
[2] Curran and Behre 1935 p. 2.
[3] Studley 1938 p. 61.

	Average 1937—39	Average 1939—41
Spruce	25 %	22 %
Hemlock	20.5 »	20.2 »
Pine	32 »	37 »

In the middle of the 1930:ies, the future demand for pulp wood was estimated to increase to 90 million m³ (25 million cords) annually within 15 to 20 years,[1] while in 1936 the consumption of pulpwood was 58 million m³ (16 million cords), presupposing national selfsupport, in which connection it is to be noted that future pulp needs include not only that for the manufacture of paper but also for rayon, transparent cellulose sheeting and the plastics industries, all of which are rapidly growing.[2] The need as such of raw material for the pulp and paper industry would be easy to survey, if the need of timber for the sawmill industry had not at the same time to be taken into account, as well as that of a great number of other industries using wood as raw material.

The official investigations which were made during the 1930:ies concerning this question gave, as already mentioned, predominantly positive results. In the investigation made by Curran and Behre on behalf of the United States Senate it was stated:[3] »The forests of the United States could supply present pulp and paper requirements, and this could be done with pulp and paper processes now in commercial use. If national needs for lumber and other forest products were also to be met, permanence could only be assured by sound forestry practices on both private and public forest lands.

Expansion of the domestic pulp and paper industry to provide for national selfsufficiency would have to take place primarily in the South, the Pacific Northwest, and to a lesser extent in Alaska, rather than in the Northeastern and Lake regions where it has until recently been concentrated. This would involve a substantial broadening of the base of species used, a trend already much in evidence.»[4]

Whether these points of view hold good under the changed conditions brought on by the war in the USA cannot be told without a scrutiny of the situation as to raw materials during the war. The danger of very excessive cuts to make up for diminished imports seemed to be impending. On account of the lack of labour these cuts, nevertheless, were less extensive than had been planned. On account of the high prices particularly of spruce wood, the use of this wood was restricted to the manufacture of high grade pulp. Such a development seems natural also after the war. The cuts of Southern pine have further increased, while the hemlock consump-

[1] Compare A National Plan . . 1933 p. 277 also Curran and Behre 1935 p. 2.

[2] Compare U. S. Tariff Commission 1938 p. 13. The need of pulp wood for the pulp and paper industry at present (1944) amounts to about 61 million m³ (17 million cords). Compare Halse 1944 p. 5.

[3] Curran and Behre 1935 p. 2.

[4] In order to make a more detailed study of the possibilities of the use of the hardwood trees see Neubrech 1938.

tion has been rather constant during the past few years. As a general tendency in regard to the raw material for the manufacture of pulp it can be ascertained that species of low grade are rapidly increasing in spread, while timber of quality requirements is rapidly disappearing.[1] Halse states:[2] »För närvarande överavverkas de amerikanska skogarna på vissa lokala områden för att tillfredsställa det mycket stora behovet av trävaror, men återväxten är i allmänhet mycket tillfredsställande över hela Ö och S skogsområdet, och som helhet betraktat kan man med ledning av skogsmätningarna fastslå, att återväxten av massaved för närvarande överstiger avverkningen.» (At present excessive cuts are being taken in certain local districts in the American forests in order to satisfy the very large demand for wood, but regrowth is generally very satisfactory throughout the eastern and southern forests, and a consideration of the matter as a whole and on the basis of forest surveys leads us to the conclusion that regrowth of pulpwood at present exceeds the cut.)

In order for a survey of the resources of raw materials in the USA to be complete, a treatment of the forests of Alaska is also necessary. Plans for the exploitation of the latter on a large scale for the purposes of the pulp and paper industry have been worked out long ago. Most recently large newsprint mills were planned there towards the end of the 1920:ies, which plans, however, were frustrated by the depression. The Federal Trade Commission in its report to Congress concerning the conditions of the newsprint industry in the country indicated in 1930 that newsprint from Alaska could compete with American and Canadian paper even in districts situated rather far towards the north on the east coast of the United States.[3] The forests of Alaska are coast or interior forests of which only the former are situated so that an economic cut is possible. The best situated forests are those of the Tonga National Forest, that covers an area of about 6 million ha (16 million acres) in the south-east of Alaska. The timber here is estimated at 2.2 billion m³ (78.5 billion cub. feet), of which 74 per cent western hemlock, 20 per cent Sitka spruce, 3 per cent western red cedar and 3 per cent American cedar. This region is calculated to be able to supply an industry producing 800 000 tons of sulphate or sulphite paper annually. This calculation is basep on a rotation of 78 years, whereby 5.8 million m³ (1.6 million cords) should be hewn annually and used for the production of pulp.

The plans for exploiting the forests of Alaska have become actual anew, since the U. S. Forest Service offered parts of the Tonga National Forest on 50 years' lease particularly for the manufacture of sulphate, as the demand for sulphate is expected to increase after the war on account of the newly invented bleaching methods. The isolated position of Alaska has to a great degree been changed

[1] Compare statement prepared by Paper and Pulp Industry for 75th Congress about the Forestry Situation in United States, 1941.

[2] Halse 1944 p. 5—6.

[3] Compare Den nordamerikanska tidningspappersindustrien, 1930 p. 1386.

through the war; the highways and railroads built are of a great importance also in time of peace.

There is a general tendency, it is true, to move the mills to the places where the raw material is to be had, but in respect to Alaska partly the enormously high basic investments for a mill there and partly the labour question and the living conditions involved have a deterring influence. It is to be noted that the population of this enormous area of 1 518 000 km² (586 000 sq. miles) in 1940 included only 72 000 persons.[1] Besides the above mentioned difficulties dissention has arisen because certain Indian tribes claim large areas of the best situated forests.[2] Even if a future exploitation of Alaska's raw material resources for the pulp and paper industry is a fact to take into account, we consider that it will have only a slight reaction on the market conditions in the Eastern states. As Guthrie has shown[3] the freight from Alaska to New York, Philadelphia, and Boston is higher than that from the north of Europe. Nor will the costs of production be especially advantageous, since great labour and logging costs, besides the costs of construction, have to be presupposed. Since the pulp and paper markets of the Orient and Australia are as favourably situated for Alaska as for the Pacific Northwest and British Colombia, the natural development seems to be that the products of the pulp and paper industry of Alaska will be directed to these markets.

[1] Compare Kizer 1943 p. 6.
[2] Compare PPPI 1943 No 5 p. 22.
[3] Compare table 64 p. 132.

The demand for forest products in the USA and in other countries.

The development of the world market for products of the forest industries depends largely on the increase in the buyers' needs. Already the previous World War had amongst other things caused an enormous increase in the consumption of paper. Helander wrote about it:[1] »Die Regierungs- und Kriegeskommissionen haben den Papierbedarf ungeheuer vermehrt, aber ebenso sehr die gesteigerte Korrespondenz der Geschäftsleute.» (The needs of government and war boards have caused a tremendous increase in the demand for paper, as also has the increase in business correspondence.) A similar and still more marked development has been found to have taken place during this war, in which paper has been used more and more, particularly as packing material.

The timber requirements of the USA have always been enormous compared to those of the rest of the world. In the middle of the 1930:ies they were 44 per cent of the consumption of the whole world.[2] The consumption of paper and board per inhabitant in some of the more important countries may be seenfrom the following table.[3]

Table 46. Consumption of paper per inhabitant in 1937.
Paperinkulutus asukasta kohti v. 1937.

	kg — *kg*	pound — *naulaa*
USA — *USA*	109.5	241
Great Britain — *Englanti*	61	134
Belgium — *Belgia*	48	106
Norway — *Norja*	44.5	98
Denmark — *Tanska*	43.5	96
Germany — *Saksa*	42.5	94
France — *Ranska*	15	33
Finland — *Suomi*	6.0	13
U. S. S. R. — *Neuvostoliitto*	4.5	10
Roumania — *Romania*	3.5	8

A corresponding estimate of the consumption of pulp in different countries is scarcely possible, since pulp has the character of a semi-manufacture and the

[1] Helander 1925 p. 34.
[2] Compare Levo'n 1936 p. 115.
[3] Postwar Possibilities of the Paper Industry, 1944.

international trade comprises pulp as well as products manufactured of it. As is seen from table 46 already before the war the USA consumed more paper per inhabitant than any other country. The reason for this was partly the great increase in the consumption of containers and Kraft paper bags. The question, whether a further increase of the paper consumption in the USA is to be expected, requires a closer investigation.[1]

There have not been any signs of the market being saturated. In 1935 Asplund wrote as follows concerning the American market:[2] »För sådana stapelartiklar som socker, mjöl och andra födoämnen har användningen av kraftpapperssäckar knappast mer än börjat — den uppskattas att ännu icke hava kommit upp ens till 1 % av vad den väntas bliva.» (Hardly more than a beginning has been made in the use of paper bags for such staples as sugar, flour, and other foods — it is estimated to be at present not more than one per cent of the expected consumption.) Increasing requirements seem to take a steadier course only with regard to newsprint.

The rise of paper consumption automatically brings with it an increase in the total demand for pulp, which, besides, is growing all the time on account of the manufacture of artificial silk. In 1935 the consumption of pulp by the U. S. Rayon Industry scarcely amounted to two per cent of the total pulp production of the USA, while the figures for 1942 were already nearing six per cent, a rise from 78 000 tons to 255 000 tons. Since new fields for the use of pulp continually become known, thanks to technical advances, there is no need to be under the apprehension of any decrease in the growing demand — barring an eventual grave economic crisis.

Other factors indicating an increasing use of wood in the USA are the following:

According to calculations the increase of the population will still continue for not less than 20 years.

The post-war program for constructions is enormous.

Technical inventions have further extended the use of plywood.

Wood is the cheapest raw material for the plastics industry.

Materials competing with wood are obtained from sources that do not grow up again (for instance iron mines and the like) so that one day wood will probably gain the upper hand.

There are some factors working in the opposite direction, for instance the increase of the city populations, involving an increase in waste paper recovery, and the onward march of the television, which will eventually diminish the consumption of newsprint. A temporary decrease in the consumption of paper on account of the conclusion of peace can also be imagined, since the abnormal demand to a certain extent raised by the war, will come to an end. On the other hand, it must be taken

[1] 1941 the consumption was 140 kg (309 lbs.) per capita.

[2] Asplund 1935 p. 1179, also Studley 1938 p. 22: »There is no way of telling to what heights the production of container board may rise.»

into consideration that the civilian consumption of paper was curtailed by restrictions during the war.[1] These negative factors, surely, are not able to influence the continued increase in the demand in any manner worth mentioning.

Since we must reckon with a continued increase in the consumption under all circumstances, the question arises as to what figures it might attain in a reasonably near future. The pre-war calculations executed by Boyce in 1931 concerning the paper consumption of the USA showed the following:[2]

Table 47. The consumption of paper in the USA in 1920 and 1930 as well as the estimated consumption in 1940 and 1950.

USA:n paperin kulutus v. 1920 ja 1930 sekä arvioitu kulutus v. 1940 ja 1950.

(1 000 tons) — *(1 000 tonnia)*

	1920	1930	1940	1950
Newsprint — *Sanomalehtipaperia*	1 992	3 177	4 082	4 609
Bookpaper — *Painopaperia*	962	1 201	1 442	1 588
Fine paper — *Hienopaperia*	337	517	690	825
Wrapping paper — *Kääreppaperia*	909	1 374	1 696	1 923
Board — *Pahvia*	2 078	3 800	6 895	9 970
Other kinds of paper — *Muuta paperia*	841	1 339	2 068	2 749
Total — *Yhteensä*	7 119	11 408	16 873	21 664

Table 48. Estimated world consumption of paper and wood pulp.[3]

Arvioitu maailman paperin ja selluloosan tarve.

(1 000 tons) — *(1 000 tonnia)*

Year *Vuosi*	Total for the world *Koko maailman tarve*	World other than the USA *Muu maailma paitsi USA*	USA — *USA* Quantity *Määrä*	USA — *USA* % of world *% maailman tarpeesta*
	Paper and Paperboard — *Paperia ja pahvia*			
1937	30 115	15 664	14 451	47.9
V—E[4] 1 (1946)	30 017	9 585	20 432	68.2
V—E 2 (1947)	30 476	11 398	19 078	62.7
V—E 3 (1948)	33 219	13 505	19 714	59.4
	Wood pulp — *Selluloosaa*			
1937	24 043	16 343	7 700	32.1
V—E 1 (1946)	21 611	10 382	11 229	51.9
V—E 2 (1947)	23 806	12 119	11 687	49.1
V—E 3 (1948)	25 968	13 912	12 056	46.4

[1] Compare PTJ 1943 No 1 p. 7—8 and PTJ 1944 No 1 p. 23.

[2] Compare Streyffert 1936 p. 101.

[3] U.S. Department of Commerce 1945 p. 9.

[4] V—E = the end of the European war.

The prolonged crisis delayed the development, so that the consumption in 1940 amounted to only 15.2 million tons, but on account of the war the actual consumption as early as 1941 attained the curve predicted by B o y c e. The consumption in 1941, however, has not been surpassed uptodate.

The Department of Commerce recently made a detailed survey not only of the requirements of the USA but also of those of the whole world during the immediate future after the end of the war in Europe. The figures brought out by this investigation are, so far as can be judged, calculated as carefully as possible and a number of variable factors have been taken into consideration (table 48).

As against this demand, the world production is approximately the following.

Table 49. Estimated world production of paper and wood pulp.[1]
Arvioitu maailman paperin ja selluloosan tuotanto.
(1 000 tons) — *(1 000 tonnia)*

Year *Vuosi*	Total for the world *Koko maailman tuotanto*	World other than the USA *Muu maailma paitsi USA*	USA: Quantity *Määrä*	USA: % of world *% maailman tuotannosta*
	Paper and Paperboard — *Paperia ja pahvia*			
1937	30 597	18 951	11 646	38.2
V—E 1 (1946)	29 086	12 202	16 884	58.0
V—E 2 (1947)	31 393	13 955	17 437	55.6
V—E 3 (1948)	33 518	16 139	17 379	51.8
	Wood pulp — *Selluloosaa*			
1937	24 190	18 227	5 963	24.7
V—E 1 (1946)	22 089[2]	12 420	9 669	43.8
V—E 2 (1947)	23 918	13 718	10 201	42.6
V—E 3 (1948)	26 070	15 461	10 609	40.6

As we see, the pulp production of the USA during the year after the end of the war in Europe is calculated to be about 1.5 million tons below the requirements. Adding to this the yearly exports of the USA themselves, not less than 300 000 tons, the total need for imports amounts to as much as in 1937. The first years' imports will eventually be particularly high, in case restrictions are speedily abolished, making a free completing of stocks possible. This is scarcely possible, since the figures for the production of the whole world do not admit of any greater completion of stocks during the first years to come. In the above figures 180 000 tons have been included for the completion of stocks during the first, 360 000 tons during the second, and 540 000 during the third year after the end of the war in Europe. Besides this it is assumed that the maximum capacity of the pulp and paper industry will be exploited. The productive capacity of the USA pulp and paper industry has of late been as follows:

[1] U. S. Department of Commerce 1945 p. 8.
[2] Includes 600 000 tons of Swedish pulp in stock on V—E Day awaiting shipment.

Table 50. Production of the USA pulp and paper mills in per cent of capacity.
USA:n selluloosa- ja paperitehtaitten tuotanto prosentteina niiden tuotantokyvystä.

	Pulp mills *Selluloosatehtaat*	Paper and Board mills *Paperi- ja pahvitehtaat*
1937	83	82
1938	65	70
1939	74	82
1940	88	86
1941	91	97
1942	89	90

The high percentage figures during the war years represent the top productive capacity that can actually be attained. A return to peace time conditions will undoubtedly be followed by lower percentage figures, since some economically unprofitable mills, that have been kept running only on account of the war, will have to break off their activity. Many mills also need a thorough overhaul and repairs. Also the length of time of the cook, that was pressed down to a minimum during the war, must be increased anew in order to improve on the quality of the pulp.[1]

All these facts point to an increase in imports, so that the pulp imports of the USA after the war are more likely to exceed than to be below the pre-war amounts.[2]

As to paper requirements the situation is in broad lines the same. As long as the war against Japan continued, the demand were estimated to exceed domestic production by about 3.6 million tons annually. After the conclusion of a general peace, 2 to 2.5 million tons must be imported. The principal part of the imports will consist of newsprint as it did previously. The Department of Commerce wrote about it:[3] »At present there is no reason to believe that imports of newsprint in approximate pre-war volume will be reduced by a substantially greater post-war domestic output.» The above mentioned import requirements presuppose that the American exports of paper products can continue.

The consumption of paper and board very closely follow the index of production of the light industries. Since these industries, at least during the first years after the end of the war can count upon a very high degree of employment on account of the enormous accumulated demand for refrigerators, radio sets, typewriters etc., also this fact points to a high paper production.

On broad lines, it seems probable that the post-war civilian requirements in the USA will exceed the consumption of the 1930:ies by five million tons annually in respect of paper and four millions annually in respect of pulp. A clear correlation exists, however, between the consumption of a staple article and the economic

[1] Compare Jansson and Kulvik 1945 p. 94.
[2] These calculations presupposed that the war against Japan would come to an end under V—E 2.
[3] U. S. Department of Commerce 1945 p. 11.

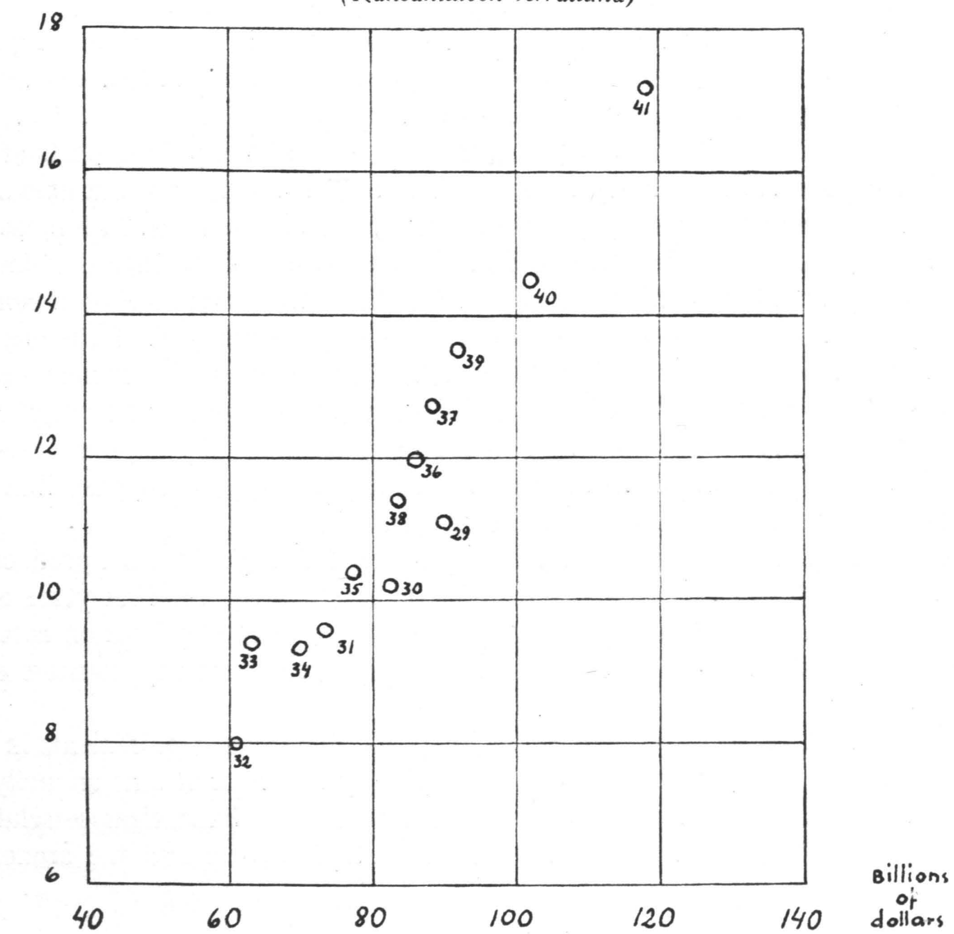
activity in a country, so that the post-war policy of the USA finally will decide the degree of the increase of requirements.[1]

This correlation can also be used in order to calculate the future production of paper. The economic activity of a country is best seen from its »gross national product», which embraces all the final products and services produced at their market price. Or, in order to quote Livingston:[2] »It is the total output of goods and services, excluding sales to another enterprise for further fabrication or resale, but including sales to another enterprise for capital investment.»

A scrutiny of USA's gross national product and the production of paper manufactures gives the following interesting diagram.[3]

Table 51 (graph.). Total paper and paperboard production in the USA in 1929—41. (On gross national product)

USA:n paperin ja pahvin kokonaistuotanto vv. 1929—41.
(Kansantuloon verrattuna)



[1] The probable post-war development in the USA will be analysed below, see p. 117.
[2] Livingston 1943 p. 6. Concerning a more detailed scrutiny of the manner of calculation compare Gilbert 1942 p. 10.
[3] Schumacher 1943 p. 4.

In order to equalize the fluctuations in value of the dollar during the war, the gross national product has been calculated on the basis of the price level of 1941. As is seen, the agreement is rather good. A comparison of the production figures for 1929 and those for 1937 is especially interesting. In spite of the gross national product being the same, the production of paper in 1937 was 15 per cent larger than that of 1929.

Schumacher indicates the production of paper and board by X_1, the gross national product by X_2 and the time by X_3, and obtains by derivation the formula $X_1 = -1.593 + 1.233\,X_2 + 1.824\,X_3$. With the aid of this formula it is possible to calculate the paper production of any year, if the gross national product is known. In the calculation made by the Department of Commerce concerning the actual production of paper compared to the production calculated according to the above equation the relatively good coefficient of correlation 0 993 was obtained.[1] A calculation of the future consumption of paper on the basis of this method is naturally only a mechanical mathematical operation under certain fixed assumptions that are based on previous conditions. A number of variable factors are disregarded in this manner of calculation. Post-war world policies, trade and taxation policies, changes in the general price level etc. can more or less upset obtained results.[2] This is, however, more or less the case with all calculations that are extended so as to comprise the future, and the most important advantage, therefore, is that the probable production is obtained in the form of figures which can be used as a basis for comparison with other estimates.

If this method is used as the basis for a theoretical prediction of the paper and board production in the USA during the first post-war years, the following table is obtained.[3]

Table 52. Paper and paperboard production in the USA.
USA:n paperin ja pahvin tuotanto.

Gross national product (billions of dollars) *Koko kansantulo (bilj. dollaria)*	140.00	145.00	150.00	155.00	160.00	165.00	170.00
	Paper and paperboard production (millions of tons) *Paperin ja pahvin tuotanto (milj. tonnia)*						
1946	18.50	19.05	19.61	20.18	20.73	21.29	21.85
1947	18.66	19.21	19.78	20.34	20.89	21.46	22.02
1948	18.82	19.39	19.94	20.50	21.07	21.62	22.18
1949	18.99	19.55	20.11	20.67	21.23	21.79	22.34
1950	19.60	19.71	20.28	20.84	21.39	21.95	22.51

The corresponding hypothetical figures for the production and imports of pulp in 1946 show the following values.[4]

[1] Schumacher 1943 p. 5.
[2] Compare Neubrech 1943 p. 28. For a more detailed study of the limitation of the method compare McCracken 1943 p. 1—8.
[3] Schumacher 1943 p. 6.
[4] Schumacher 1943 p. 15.

Table 53. Pulp production and imports in the USA.
USA:n hiokkeen ja selluloosan tuotanto ja tuonti.

Gross national product (billions of dollars) *Koko kansantulo (bilj. dollaria)*	1946				
	145.00	150.00	155.00	160.00	165.00
	(millions of tons) — (*milj. tonnia*)				
Domestic production — *Kotimainen tuotanto*	9.88	10.13	10.38	10.63	10.89
Imports — *Tuonti*	3.04	3.11	3.19	3.27	3.34
Approximate domestic consumption — *Likimääräinen kotimainen kulutus*	12.92	13.25	13.57	13.90	14.24

The values in table 53 have been obtained by first calculating the domestic production plus the imports. The following figures were obtained for the imports expressed in percentage of this total value in previous years.

	%		%
1925	29.5	1933	31.2
1926	28.3	1934	28.9
1927	28.0	1935	28.2
1928	28.0	1936	28.6
1929	27.9	1937	26.7
1930	28.3	1938	22.4
1931	26.6	1939	22.5
1932	28.3		

By working out these values graphically and fitting a straight line trend to the resulting chart Schumacher obtains by derivation the equation $Y = 29.892 - 2.923\,X$, X being the time and Y the imports in per cent. In 1946 the imports expressed in per cent of the total consumption were thus found to be 23.5 per cent. The remainder consequently is the domestic production of the USA. In spite of the fact that the proportional share of the pulp imports in the domestic consumption of the USA thus shows a slowly sinking tendency, the imports, according to this manner of calculation, will exceed three million tons annually. It should be mentioned that the figures given in the table do not include the exports of the USA themselves nor any eventual stock requirements.

The total gross national product still cannot be determined with certainty even for the year 1946. The economists who have occupied themselves with calculations in advance concerning this problem consider that the gross national product will come to about 150 billion dollars. Livingston reckons, it is true, theoretically with 165 billion dollars, expressed according to the prices of 1942, but this gross national product presupposes 96 per cent employment and only two million unemployed. In practice we cannot calculate with this, since even seasonal curtailments cause this number of unemployed.[1]

[1] Livingston 1943 p. 23.

As a summary of the different facts and calculations given above concerning production and consumption of products of the pulp and paper industry of the USA themselves during the immediate post-war future, we consider ourselves entitled to draw the following conclusions:

The total consumption of timber will be considerable; the consumption of paper will come to 20 million tons a year, which leaves 2.5 to 3 million tons of newsprint to be imported; and the consumption of pulp will amount to 13 million tons, which presupposes an import of 2 to 3 million tons a year.

While production as well as consumption in the USA thus will be far above the pre-war level, the situation as to the rest of the world will be quite different. Great areas, particularly in Europe, have been subject to serious destruction in connection with military operations. Not until the reconstruction of these countries has been carried through, can the consumption be expected to exceed the prewar level. A decrease of about seven million tons in comparison with the figures for 1937 seems probable in regard to paper as well as to pulp during the first years after the conclusion of the peace. Not later than 1950, the recovery, however, ought to have advanced so far as to regain the pre-war level. Since a speedy industrial expansion in many European countries must at the same time be expected, world demand for the products of the pulp and paper industries will from this moment on strongly increase. No limit can be forseen for this increased demand. If we imagine that a population of 1 750 millions would use paper products to the same extent as the USA average in 1936, the world annual requirements should grow from 30 to 200 million tons. Such a development seems natural in view of the tendency toward increased industrialization and social development in most countries, so that the question concerning the paper requirements of the world will thus in the long run be a problem of the possibilities of production.

There are, nevertheless, some factors working in the opposite direction. After the war paper will without doubt be forced out from certain fields where it has been used as substitute while other raw materials were tied up by war production, but this decrease will probably be simultaneously compensated by new fields for the use of paper created by technical advances. Compare the supplanting of metals by timber particularly in the building industry before the war. Products of plywood and plastics will probably stand the competition of other materials after the war. Gray wrote:[1] »The possibilities of post-war trade in forest products are tremendous. The pent-up demand for building materials throughout the world will be the dominant factor for some time, but undoubtedly trade will be built up on the multitude of new wood products developed through research, which the war has stimulated.» We can count upon it that the old saying »paper is a substitute for many things, but there is no real substitute for paper» will hold good also in the future so far as

[1] Gray 1943 p. 380, compare PPPJ 1944 No 2 p. 19 and [Hall] 1944 p. 506—508.

can be foreseen.[1] As to the USA, Marsh and Gibbons wrote in 1933:[2] »There is every reason to believe that there will be a ready demand, at home or abroad, for all of the wood that will be grown in American forests.» This sentence ought rather to be worded as follows: There is every reason to belive that all the wood that will be grown in American forests will scarcely suffice to meet the American requirements.

[1] Compare Swanson 1943 p. 62 concerning pulp as raw material for the manufacture of paper, and Throckmorton 1944 p. 807: »paper is always going to be the cheapest packing material».
[2] A National Plan . . . 1933 p. 297.

Finland's competitors for USA markets.

In the last chapter we maintained that the imports of products of the paper industries to the USA will not show any signs of decreasing within a future that can be anticipated. The next step in our analysis is to investigate which countries can chiefly be expected to meet this import demand.

The excess of capacity for manufacturing products of the pulp and paper industries that existed between the World Wars, led to a keen international competition and to a very complicated market. In 1938—39 the yearly world exports of pulp amounted to 4.9 million tons on an average, while the corresponding figure for paper exports amounted to 5.2 million tons. Proceeding from the supposition that an extended international trade with the USA in products of the forest industries will in spite of all start rather soon after the war, the question of competition between the exporting countries will become actual again. In order to be able in some measure to judge the possibilities that Finland possesses for asserting herself in this respect, we will have to investigate the resources of raw materials and the pulp and paper industries as well as eventual further possibilities for their development in the competitor countries in question. Before the outbreak of the war, the pulp imports of the USA from different countries were distributed as follows:[1]

Table 54. Pulp imports to the USA by 1 000 tons from:
USA:n selluloosan ja hiokkeen tuonti (1 000 tonnia).

	Sweden *Ruotsista*	Finland *Suomesta*	Norway *Norjasta*	Germany *Saksasta*	Other European countries[2] *Muista Euroopan maista*	New-foundland & Canada *Newfoundlandista ja Kanadasta*
1932	562	196	101	83	39	386
1933	816	220	107	79	48	500
1934	734	214	90	83	44	492
1935	816	260	84	73	48	491
1936	921	283	113	68	73	609
1937	1 025	260	93	63	85	646
1938	732	247	64	34	63	424
1939	792	369	87	19	56	579
1940	253	34	15	—	6	751
1941	—	9	—	—	—	1 039

[1] Wood Pulp Statistics 1944 p. 44.
[2] Includes small quantities from Japan and Australia.

As to the imports of newsprint, they originated chiefly from the following countries.[1]

Table 55. Imports of newsprint to the USA by 1 000 tons from:
USA:n sanomalehtipaperin tuonti (1 000 tonnia).

	Sweden *Ruotsista*	Finland *Suomesta*	Norway *Norjasta*	Germany *Saksasta*	Other European countries *Muista Euroopan maista*	New-foundland & Canada *New-foundlandista ja Kanadasta*
1920	17	7	5	19	1	616
1929	46	31	3	8	—	2 111
1930	63	37	8	13	—	1 946
1931	61	42	13	20	—	1 736
1932	55	43	21	13	—	1 494
1933	62	50	15	11	—	1 488
1934	62	52	14	5	—	1 872
1935	84	71	21	6	—	1 983
1936	79	117	20	9	—	2 276
1937	92	143	22	12	—	2 652
1938	64	134	10	9	—	1 843
1939	56	171	38	5	4	2 096
1940	8	19	2	—	—	2 488
1941	—	2	—	—	—	2 702

As shown by the above tables, Sweden led until the outbreak of the war, although strongly menaced by Canada with regard to pulp. Next to Sweden and Canada Finland was the most important competitor. Newsprint which always constituted the principal article for imports of all kinds of paper was delivered almost exclusively by Canada, with Sweden and Finland in second and third place. As we see, Canada, Sweden, and Finland consequently were the most important contractors of the USA.

Canada has been and will always be in a class by herself as producer of pulp and paper products for the USA. An analysis of the forest industries of the USA can scarcely be considered complete without treating the North American continent as a whole.

As late as in 1923, the Canadian forest resources were radically miscalculated in an official report. The annual cuts required added to the annual losses through forest fires, noxious insects etc. totalled 125 million m³ (4 428 million cub. feet). Since the growing stock of coniferous trees was estimated at 5 600 million m³ (198 000 million cub. feet) in 1923, of which only half was situated so that it could be profitably transported, this economically useable half would be consumed within a few years. Neglect of the natural regrowth is probably the reason for the above result.

[1] U. S. News Print Service Bureau.

According to later estimates the forest area of Canada amounts to 312 million ha (781 million acres) or about 35 per cent of its total surface. Only 66 million ha (164 million acres) or 14 per cent of the total area are suitable for agriculture.[1] Of these 312 million ha (781 million acres), 110 million ha (275 million acres) are accessible. The total amount of growing timber is estimated at 8.86 billion m³ (313 billion cub. feet), of which 6.01 billion m³ (212 billion cub. feet) are of economic importance. One fourth part of this is adapted to the use of the sawmill industry and three quarters for the pulp industry.[2]

During 1930—40 the actual yearly losses were as follows:[3]

	million³	million cub. feet
Annual cut	72	2 550
Fire losses	11	400
Other losses	20	700
Total	103	3 650

This total must principally be reckoned as a part of the forests that are of economic importance. The above calculation necessitates a growth of 1 m³ per ha (14 cub. feet per acre) in order to establish equilibrium. This should not involve any difficulty for a rational forestry. In Scandinavia the growth is almost 2 m³ per ha (28 cub. feet per acre). According to information from professional circles the possible annual growth is calculated to approach 2.8 m³ per ha (40 cub. feet per acre).[4] On the other hand, forestry up to the present moment has been a rather unknown idea, partly because the provincial governments control large forest areas and their interests do not always coincide with those of the whole country. Particularly the system of leases to operating companies has not in any manner encouraged forestry.[5] The forest resources have been so great that no real forest care has been necessary so far.

How great the real growth is at present can only be roughly estimated, since no sufficiently accurate rating embracing the whole realm bas been accomplished. The Canadian experts themselves consider it improbable that the growth should cover the losses, when the constantly recurring fires and the injuries by insects are taken into consideration as well as the deterioration of the soil caused by the ground becoming progressively swampy.[6] A direct comparison of the growth and cut does not give any exact idea of the real forest balance, as in respect to the forests of the USA, since 60 per cent of the forests of Canada still are virgin forests with a rather

[1] Compare the USA, where 50 per cent of the land area is suitable for cultivation.

[2] The above information is chiefly from Canada 1943, 1943 p. 81. Other sources correspond in broad lines to this. Compare for instance Kennedy 1944 p. 753.

[3] Koroleff 1944 p. 225.

[4] Compare Kennedy 1944 p. 753, also Koroleff 1944 p. 225.

[5] Compare Bates 1941 p. 1.

[6] Compare PPPI 1941 No 5 p. 99.

insignificant growth. Under any circumstances the total cut in the economically well situated districts of Quebec and Ontario very strongly exceeds the growth.[1] Thus year after year the pulp and paper industry in Canada is forced to cover its requirements of raw materials from more and more distant districts, so that a continuous rise in the costs of raw materials cannot be avoided.

The great development of the pulp and paper industry in Canada occurring between the two World Wars is most clearly shown by the following tables giving the pulp and the newsprint production of Canada.[2]

Table 56. Pulp production in Canada.[3]
Kanadan selluloosan ja hiokkeen tuotanto.
(1 000 tons) — *(1 000 tonnia)*

	Mechanical *Hioketta*	Sulphite *Sulfiitti-selluloosaa*	Sulphate *Sulfaatti-selluloosaa*	Total *Yhteensä*
1920	989	593	171	1 745
1925	1 471	765	220	2 456
1929	2 196	1 121	227	3 544
1930	2 071	977	171	3 219
1931	1 829	855	132	2 815
1932	1 539	855	131	2 524
1933	1 686	850	166	2 703
1934	2 123	925	187	3 236
1935	2 230	930	187	3 347
1936	2 640	1 061	248	3 949
1937	3 002	1 246	284	4 531
1938	2 404	839	234	3 477
1939	2 484	934	265	3 682
1940	2 858	1 247	328	4 433
1941	3 171	1 510	387	5 190
1942	2 957	1 590	416	4 965
1943	2 721	1 554	400	4 675
1944	2 722	1 452	426	4 600

The corresponding development of the newsprint industry was as follows:

Table 57. The newsprint production of Canada.[4]
Kanadan sanomalehtipaperin tuotanto.
(1 000 tons) — *(1 000 tonnia)*

1920	795
1925	1 394
1929	2 472
1930	2 266
1931	2 020
1932	1 741
1933	1 834
1934	2 363
1935	2 508
1936	2 926
1937	3 333
1938	2 381
1939	2 603
1940	3 179
1941	3 193
1942	2 955
1943	2 763
1944	2 962

[1] Compare U. S. Tariff Commission 1938 p. 120. Of about 100 mills in the whole country 82 were active in the above mentioned provinces in 1939. Compare Agassiz 1941 p. 585.

[2] The rapid expansion of the Canadian pulp and paper industry dates from 1913, the year when the customs duty on newsprint was abolished in the USA.

[3] Dominion Bureau of Statistics.

[4] U. S. News Print Service Bureau.

The capacity of the pulp and paper industries in 1940 came to the following figures:[1]

	1 000 tons	Number of mills
Sulphite	1 716	43
Sulphate and Soda	348	7
Mechanical	3 925	61
Total Pulp	5 989	111
Newsprint	3 901	35

There was no new construction activity worth mentioning during the war years, so that the above figures can be taken as basis for judging the present productive capacity of Canada. In 1940 the pulp and paper industries occupied first place in the economic life of the country with regard to capital, wages and salary distribution as well as to the net value of production. The sawmill industry still remained in the first place only in respect to employment.

As to exports, it is to be noted that in spite of the enormous increase in pulp production there was no corresponding increase in exports of pulp, whereas paper exports had increased strongly.

Table 58. The pulp exports of Canada.[2]
Kanadan selluloosan ja hiokkeen vienti.
(1 000 tons) — *(1 000 tonnia)*

	Chemical pulp *Selluloosaa*	Mechanical pulp *Hioketta*	Total *Yhteensä*
1920			744
1925	543	327	871
1929	568	190	758
1930	500	190	689
1931	415	150	565
1932	305	105	410
1933	432	120	552
1934	442	108	550
1935	488	112	601
1936	563	122	684
1937	639	152	790
1938	390	112	503
1939	487	153	640
1940	784	185	969

[1] Compare Asplund 1942 p. 108.

[2] Dominion Bureau of Statistics.

Peace time pulp exports reached their high in 1926, and this record was not beaten until 1940, when the war deliveries began. The increase in pulp production during the 1930:ies was chiefly reaped by the paper manufacture. During 1936—39 the USA bought on an average 83 per cent of the total pulp exports of Canada. With the outbreak of the war Canada, however, became the only pulp contractor of the empire so that the exports to the USA declined, in 1940 to 77.5 and in 1941 to 72 per cent. A pulp export beyond these figures is at present scarcely possible before new mills have been built. The tendency is toward construction of domestic mills rather than allow unlimited exports of pulp wood. It is probable that Canada will retain the pulp market that it has obtained by now in the USA.

Table 59. Canada's production and exports of newsprint.[1]
Kanadan sanomalehtipaperin tuotanto ja vienti.
(1 000 tons) — *(1 000 tonnia)*

	Production *Tuotanto*	Total exports *Koko vienti*	Of which to the USA *Vienti USA:han*
1920	795	691	608
1925	1 394	1 272	1 198
1929	2 472	2 282	1 971
1930	2 266	2 116	1 822
1931	2 020	1 822	1 590
1932	1 741	1 612	1 385
1933	1 834	1 667	1 379
1934	2 363	2 190	1 778
1935	2 508	2 336	1 862
1936	2 926	2 715	2 176
1937	3 333	3 134	2 630
1938	2 381	2 200	1 758
1939	2 603	2 412	2 001

The exports of pulp wood, that had attained 50 per cent of the total cut in the beginning of the 20th century. afterwards declined strongly in consequence of provincial and government measures intended to preserve timber resources. The exports now take place principally from private forests, which constitute an insignificant part of the total forest area. More than 91 per cent of the forests of Canada belong to the state, either in the rights of the provinces or of the Dominion, the lumbermen having been granted cutting rights only. Canada's restrictive policy with respect to the exports of pulp wood has without doubt contributed to the rapid growth of a domestic pulp and paper industry. It has now been stipulated that a corresponding quantity of pulp wood must be consumed by a local mill in order for a new district to be opened for pulp wood exports. Until the outbreak of the war, practically all the exports of pulp wood were directed to the USA.

[1] Guthrie 1941 p. 250.

Canada's pulp and paper industry still has great possibilities for extension in certain districts, especially in British Columbia. The market investigation carried out by the Association of Wood Pulp Importers in 1943 state:[1] »Even without drawing upon very large reserves of virgin wood in British Columbia, there will be pulpwood sufficient for maintaining the same exports of wood and also sufficient for new pulp mills that eventually will be built in Canada after the war.» It is difficult to predict where the limits for these possibilities of extension will be drawn. If a further improvement in the problem of exploitation is carried through and if the building of new plants is in future carried out with particular attention to placement, so that previously not economic districts are made use of, there will still be a possibility for considerable further expansion.[2] Bracken states[3], that 1 130 m³ (40 000 cub. feet) of timber are lost through fire, insects and diseases for every 2 830 m³ (100 000 cub. feet) cut. Besides this, 25 per cent of the cut was wasted through uneconomical methods of logging and manufacture. Subject to the above assumptions, and if these unnecessary losses through fire and insects can be brought down to a minimum, a yearly pulp and paper production of 20 million tons does not seem impossible.

Certain circumstances, nevertheless, indicate that the development will be considerably slower in future. The unfortunate economic consequences of the expansion during the 1920:ies and 1930:ies do not constitute an example worthy of imitation. The large investments that were made particularly by the USA in order to increase the production of newsprint were, as we know, for the most part lost during the depression. Since the increase in world consumption could not possibly follow the Canadian increase of production, the result was a desperate sales policy. The price of newsprint seems to have stayed under the costs of production and delivery during a whole decade. The inevitable result was that by far the greater part of the newsprint companies went bankrupt. The overexpansion in the 1920:ies had been caused by the fact that the price of newsprint towards the end of 1920 had risen to $ 137. — per short ton and stayed above $ 70. — until 1927. No corresponding prices are to be expected at present, if for no other reason, then because the per capita consumption cannot be expected to increase in any degree worth mentioning.[4] Consequently also the possibilities of interesting people in investing capital in the Canadian pulp and paper industry to the same extent as previously are doubtful. USA capital probably will try to find its way to Alaska and abroad. This fact will have a calming influence on the development in the immediate future, as will above all the technical problems of transportation of all the resources of raw materials that have not been exploited.[5]

[1] Market Review of the American Association of Wood Pulp Importers Inc. 1943.
[2] Compare PTJ 1944 No 5 p. 7, also Kennedy 1944 p. 753.
[3] Bracken 1944 p. 537.
[4] Compare Guthrie 1941 p. 13 and 58.
[5] Compare E. S. 1938 p. 265, also Raitt 1939, who was of the opinion that Canada in 1947 would not have enough raw materials for a continued expansion.

One cannot exactly judge how great a part of the exports of forest products will be directed to the USA after the war. It is natural that the USA will always constitute Canada's principal market. The exports of newsprint exempt of customs duty as guaranteed by the commercial treaty of 1935 between the USA and Canada will be permanent for a long time to come on account of the political power of the USA press at home and in Canada. The endeavours to unite the different parts of the British Empire more solidly, especially economically and with respect to trade policies, which efforts from the Ottawa conference on have constituted the guiding line of empire policy, are, however, an important factor when judging the future export policies of Canada. It is true that the results of the Ottawa policy have been condemned in sharp words by a number of British financiers and businessmen of distinction, but the changes brought on by the war in the England's economic position have again increased the support for imperial preferences and thus brought Canada and the mother country England closer together.[1]

The increase in Canadian exports to England and Australia that has been noted during the war years is not necessarily of a passing nature. Repeated semi-official utterances in England in favour of abolishing the most favoured nation clause as well as claims for a more effective preferential policy for the British Empire point in this direction.

Besides this, Canadian newsprint has during the war gained a solid position on the South American market, where Swedish and Finnish paper was previously preferred on account of its price. There are certain circumstances indicating that the Canadian trade will continue increasing even after the conclusion of peace.[2]

The Canadian interest in an extended South American export is connected chiefly with the possibility of obtaining dollars, with which to balance the large excess of imports from the USA. To what extent the Canadian post-war exports will be directed to the USA consequently depends upon the degree in which the present currency restrictions continue. In case a trend toward free trade supervenes, Canada has the possibility of obtaining dollars through exports to any country; otherwise exports to the USA will have to be favoured in every way.[3]

As a summary of these extremely dissimilar components that will influence the Canadian pulp and paper industry in the future it can be established that

an expansion of production at the same pace as between the World Wars is not to be expected, and that

the USA will remain, it is true, an outlet for the Canadian pulp and paper industry, but the increased exports will in a rather considerable degree seek other markets.

From a Finnish point of view Sweden is the most important competitor next

[1] Compare Whidden 1945 p. 4 and 26.

[2] Compare Svensk Utrikeshandel 1945 No 9 p. 30 and PTJ 1944 No 4 p. 42 amongst others concerning the previous lack of direct Canadian shipping lines to South America.

[3] Compare Knox 1944 p. 312.

to Canada. The good natural resources for a pulp and paper industry on a very large scale that Sweden possesses have been exploited since an early date. Already prior to the first World War, Sweden was the foremost producer of pulp in Europe, with a production approaching one million tons, a considerable figure in view of conditions at the time.[1] The expansion of the Swedish pulp and paper industry continued during the 1920:ies and the 1930:ies to such an appreciable degree that the limits of what the country's resources of raw materials were considered to be able to stand were attained at the outbreak of the war in 1939. Whether this was in fact the case, will be examined below in just a few words.

The official detailed statement made by appointed experts and based on the results obtained through the forest survey of the realm in 1923—29 shows that the balance between cuts and regrowth in the period 1928—32 was obtained only thanks to the decline of the sawmill industry on account of a decrease in the tide of the market. A larger quantity of timber, therefore, could be disposed of by the developing pulp industry. At the same time it was established that a considerable lack of raw material was apparent in certain Norrland centers of industry. This deficiency was, nevertheless, considered, on the whole, to be counterbalanced by excess resources of raw material in the central and southern parts of Sweden.[2] A further change for the worse in the situation towards the end of the 1930:ies was considered evident. With the high tide of the market, the decline in the consumption of raw material in the sawmill industry changed to a rise, and the sulphite as well as the sulphate industries expanded powerfully. Jonson established already in 1937:[3] »att den sammanlagda förbrukningen av gagnvirke jämfört med åren 1928—1932 hittills stigit med åtminstone 20 à 30 procent.» (that the total consumption of useful timber has so far risen by at least 20 to 30 per cent as compared to the years 1928—1932.) The approximate balance between growth and cuts that prevailed in the beginning of the 1930:ies was thus already a few years later considered to have been seriously disturbed. In some previously exploited spruce districts in Norrland the cuts were estimated to amount to nearly double the annual growth.[4] The calculation of timber cuts carried out by the Central Statistical Office in 1937 showed, however, a deficiency only in the case of Norrland's timber. The yearly cut in Norrland and Dalarna in 1937 amounted to 32.2 million m³ (1 137 million cub. feet), while the calculated growth was 30.5 m³ (1 077 million cub. feet).

The second forest survey of the realm was started in 1938, and according to published figures it gives a reassuring view of the situation compared to previous assumptions. The timber resources during the years of survey were as follows:[5]

[1] Compare Den Svenska Cellulosaindustriens utveckling och nationalekonomiska betydelse, 1918 p. 34 and 67.

[2] For more detailed information see Betänkande angående råvaruförsörjning ... 1935 chiefly p. 71—111.

[3] Jonson 1937 p. 403.

[4] Jonson 1937 p. 405.

[5] Anstrin 1945 p. 242.

Table 60. The growing stock of the forests of Sweden.
Ruotsin metsävarat.

Administrative district *Piirikunta*	Year of survey *Arvioimisvuosi*	Growing stock million m³ *Metsävarat milj. m³*	million cub.feet *milj. j³*	Of which pine and spruce *Havupuuta*	
				million m³ *milj. m³*	million cub.feet *milj. j³*
Gävleborg	1942	105.1	3 716	94.1	3 322
	1926	104.3	3 682	90.3	3 188
Västernorrland	1938	104.7	3 696	88.3	3 117
	1924	100.8	3 558	81.4	2 873
Jämtland	1939—40	125.9	4 444	107.4	3 791
	1924—25	127.1	4 487	107.9	3 809
Västerbotten	1939—41	153.4	5 415	130.0	4 589
	1925	170.5	6 019	143.1	5 051
Norrbotten-coastland....	1941	77.4	2 732	63.1	2 227
	1925	79.5	2 806	64.9	2 291
Norrbotten-Lappmark ..	(1937)	—	—	59.3	2 093
	1926	—	—	67.0	2 365
Total coniferous forests	1937—42			492.5	17 385
Koko havupuuvarasto	1924—26			501.0	17 685

As shown by the above figures, the annual reduction of the total growing stock amounted to only 0.5 per cent. As to Norrland, the resources of coniferous forests decreased during the time between the two surveys of the realm by 1.7 per cent. The apprehensions that, generally speaking, prevail in Swedish forestry circles as to a very substantial excessive cut in the forests of Norrland, have evidently been rather exaggerated, particularly considering the fact that large areas of over-age forests have existed in the forest districts of Norrland. The decrease has principally taken place with respect to timber of these larger dimensions, that has served as raw material for the sawmill industry.[1]

A further expansion of the forest industries on a large scale seems, however, out of the question, considering the present resources of raw material, although certain inner structural changes have to be taken into account. The possibilities that would be opened up were real forestry to be practiced, cannot be discussed here.[2] It should also be taken into account that possible future substitution of some other material for wood in other fields may liberate resources of wood to the benefit of the pulp industry. A future increase in the manufacture of spruce pulp at the expense of the spruce timber seems probable, while the sawmill industry, on the other hand, will take possession of the chief part of the pine timber. In other words, one can still imagine a certain development of the sulphite industry, while the sulphate industry even at its present capacity will suffer for lack of raw material.

[1] Compare Streyffert 1945 p. 4. Compare also p. 89 regarding forest balance.
[2] The general shift towards higher grade classes, which was established by the second survey of the realm, is not without interest.

It would lead us too far, if we ventured on a detailed scrutiny of the forest industries and export markets of Sweden. The following facts concerning that country's trade with the USA may, however, be brought forth. The share of forest products in the total Swedish exports to the USA amounted to 75—80 per cent and a value of 125—150 million Crowns annually in the 1930:ies. During a long time, the USA have been the principal market for Swedish pulp, and these exports have constituted about 45 per cent of Sweden's total pulp exports.

At present it is difficult to judge to what extent Sweden has possibilities for regaining or even expanding her exports to the USA after the war. The problem is to a certain extent the same as that which faces Finland. Since the need for products of the pulp and paper industry in neighbouring European countries will be considerable after the war, sufficient quantities will probably not be available to support a proportionate increase of the exports to the USA. The above investigation of Sweden's resources of raw materials, on the other hand, showed that no quantitative expansion of the pulp and paper industry is to be reckoned with. A number of authoritative utterances in Sweden as well as in the USA seem, nevertheless, to presuppose a return to pre-war conditions.[1] Certain trade political and economic factors also indicate such a development. After the war, Sweden will require quite a number of American articles, while the Swedish metals exports are expected to be directed to the USA. The financial difficulties on the European markets will doubtless be considerable.

Norway and Germany are countries of secondary importance for the American imports. England has always been the principal market for Norway's surplus of products of the pulp and paper industries, and there is nothing that would indicate a change to the advantage of the USA. As to Germany, the export industries of the country are partly dependent on imported raw materials, which requirements will be more and more difficult to cover in the future, since every country prefers, if possible, to convert its raw materials itself. Part of the German pulp and paper industry was destroyed through the war. Without doubt we can count upon Germany herself needing all the products of the pulp and paper industries that can be manufactured there. Nor is there any goodwill to be expected for German goods in the USA. The Allies may eventually insist on deliveries of pulp and paper products, when the war indemnities are fixed. No exact information as to this, however, is so far available.

Other countries were not to be reckoned with as eventual competitors on the American import market prior to the war in any case. The Soviet Union, it is true, possesses enormous unexploited resources of raw materials, but on account of transportation difficulties so far only a fraction of them can be used. Two fifths of the world's coniferous forest areas are situated within the borders of the USSR. In European Russia alone the growing stock estimated at 12 000 million m³ (424 000

[1] Compare for instance U.S.A. på väg till självförsörjning, 1941 p. 176 and Asplund 1943 p. 151.

million cub. feet).[1] It must be noted that the USSR' pulp and paper industry will have to meet during the next few decades domestic requirements that are expected to increase substantially with the rising level of education.[2] As was pointed out already in the introduction, the question as to the forest industries of the USSR and their development is such a vast subject and so difficult to judge that it must be left entirely outside the limits of this treatise.

Certain other countries also have resources of raw materials which thanks to technical progress can give rise to industries of considerable dimensions. Such sources of raw materials are, for instance, the bamboo of India, the Parana pine of Brazil, and certain species of Eucalyptus of Australia. The bamboo, which is quite suitable for paper manufacture, cannot yet be exploited as economically as the northern species of trees.[3] Even if one of the above mentioned resources should give birth to a pulp industry within the near future, there would be no need for apprehensions, since all those countries, where these raw materials are found, are large importers of products of the pulp and paper industries. Besides this, it remains to be seen whether eventually newly created industries are sufficiently strong competitors to be able to hold their own economically as well as in respect to quality against the industries of the northern hemisphere.

Thus after the war the competition for the USA market will, so far as it is possible to judge, take place as before between Canada, Sweden, and Finland.

---

[1] Compare Streyffert 1933 p. 92 and 130.

[2] The consumption of paper in the USSR was still in 1937 only 4.5 kg (10 lbs.) a person.

[3] Compare Baksh and Nizamuddin 1932 and E. V. 1934 p. 958.

The post-war period in the USA.

Lary wrote about the imports to the USA:[1] »The whole movement in imports closely parallels the course of the business cycle in this country.» In order to be able to arrive at a final conclusion in the questions concerning Finnish-American post-war trade it will be necessary to discuss some general economic and political post-war traits.

USA industrial life has to face enormous problems in connection with the reorganization for peace-time production. The greatest immediate problem is the substitution of 70—80 billion dollars of civilian expenditures for the corresponding costs of war. According to the Federal Reserve Index of Industrial Production (1935—39 = 100) the USA production had in 1939 practically attained the peak figures of 1929.[2] Already in 1940 the index had risen to 123, or more than ten per cent above that of 1929. Since then the USA's actual volume of production has increased by a further 50 per cent. It is to be noted that the USA war deliveries were made possible chiefly through expansion of production and not by curtailment of consumption as was the case in other warring countries. According to an investigation made by the Department of Commerce two thirds of this increase resulted from an acceleration of pace in production and one third from an increase in the working population.[3] Since this increase in the number of workers took place at a moment, when more than ten million men were called into military service, it is evident that it will remain after the war, even taking into account the demobilization of female and over-aged working power that will take place. Theoretically the American productive capacity will consequently be about 60 per cent above that of the peak year 1929. The share of the USA in the world production of 1928 is shown by the following figures.[4]

---

[1] Lary 1945 p. 3.

[2] 1929 = 110, 1939 = 108.

[3] Livingston 1943.

[4] Die Industriewirtschaft 1933 p. 42.

The share of the most important countries in the world production of 1928.

	%
USA	44.8
USSR	4.7
Great Britain	9.3
Germany	11.6
France	7.0
Japan	2.4
British India	1.3

Quite apparently, the USA held a strong position as early as 1928. This share, it is true, diminished during the 1930:ies, when industrial activity was at low ebb and productive capacity was not fully exploited, but, nevertheless, amounted to a good third of the world production at the outbreak of the war. Taking into consideration the fact that the European industries have to a great extent been destroyed by the war, it is evident that the USA's share in world production during the present post-war period will be completely dominating. Lary wrote about it:[1] »It is almost as if we were considering the commercial relations of onehalf of the world with the other half.»

This is a somewhat exaggerated assertion, since this enormous production is principally for the domestic market, but it is certain that a return to the previously practised isolationist policy does not seem possible, because it cannot under any circumstances be denied that important fields of industry have been extended far beyond the needs of the domestic market. Concerning the situation at the close of the war Livingston wrote:[2] »It seems almost certain that post-war output must exceed the best pre-war year. If it should be no more than in 1940 there would be the 9 million who were unemployed in 1940 plus the 2 ½ million added to the civilian labor force between 1940 and 1946 plus 8 million who would be displaced by improvements in efficiency over the 6 years — a total of over 19 million unemployed.» As the above quotation demonstrates the production ought to be maintained under any circumstances in order to avoid a complete catastrophy as regards unemployment.[3] The domestic market cannot possibly absorb the increased production in question, even if the accumulated demand for durable utilities that arose during the war and the necessity of completing depleted stocks are taken into consideration. Nor has the Beveridge plan for full employment, a socialization of the demand rather than of production,[4] any prospects of being applied in the USA. The distrust of the New Deal policy, deeply rooted already at an earlier date, has been further nourished during the war by the different war-time regulations and

¹ Lary 1945 p. 3.
² Livingston 1943 p. 3.
³ Concerning the calculated number of unemployed after the war compare [Stiernstedt] 1945 p. 33, Browaldh 1945 p. 35 and New York Times 1945 February 4th.
⁴ Compare Beveridge 1944.

by a great deal of red-tape that it has not been possible to avoid. This has led to an intensive propaganda in favour of a free industry as against an economic policy directed by the state.

Since a production of the size of that maintained during the war cannot be absorbed by the domestic market, and since a curtailment of the productive capacity would lead to enormous private and public losses and, besides, lead to vertiginous unemployment figures, the only natural solution seems to be a strong expansion of American exports. The alternative possibility of raising the level of wages and thereby artificially increasing purchasing power is a great deal further from realization.[1] Opinions concerning the future relationship between the domestic market and exports which have been expressed, amongst others, by the Department of Commerce and Sternberg to the effect that:[2] »There is not to day, nor there will be immediately after the war, any pressure of surplus production that pushes toward the expansion of foreign outlets,» evidently have been concerned with the immediate post-war future. The Department of Commerce also later on states:[3] »Despite this disadvantage, a large volume of exports will be necessary in order to restore economic life abroad and will be desirable, in a more narrow sense, as a means of holding open trade channels for the long run.» The reorganization for peace-time production and meeting of the domestic requirements should, however, not be a question of more than 2—3 years, after which the USA foreign trade will greatly influence the course of the market.

A survey of the USA share in the world trade of 1929 is shown in the following table.[4]

Table 61. Participation of important countries in world trade 1929.
Maailmankaupan jakaantuminen 1929.

	Imports *Tuonti*	Exports *Vienti*	Total *Yhteensä*
	%		
United Kingdom — *Englanti*	15.19	10.75	13.05
USA — *USA*	12.19	15.62	13.84
Germany — *Saksa*	9.00	9.73	9.35
France — *Ranska*	6.41	5.95	6.19
Japan — *Japani*	2.80	2.94	2.86
USSR — *Neuvostoliitto*	1.27	1.44	1.35

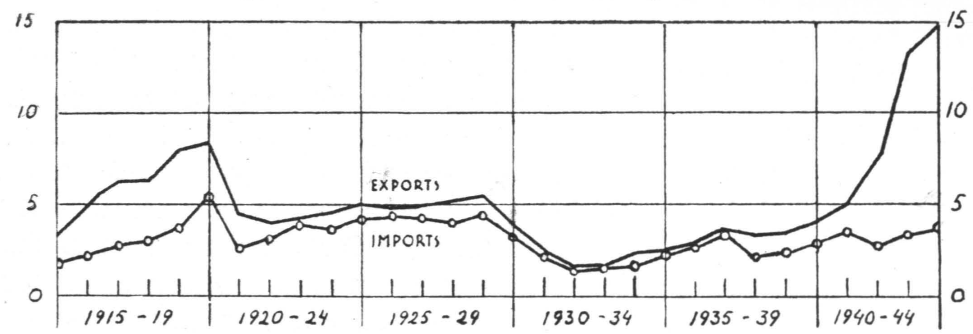
The share of the USA in the total world trade was only 14 per cent, while their share in the world production amounted to about 45 per cent as shown above. During 1933—38 the exports from the USA to all countries amounted on an average

¹ Compare Ohlin 1945 b.
² Sternberg 1944 p. 303.
³ Neubrech 1943 p. 1.
⁴ Review of World Trade 1938 p. 25.

to 13 per cent.[1] The foreign trade was prior to the war of secondary importance as compared to the domestic market.

The following graph gives an idea of the development of the USA's foreign trade.[2]

Table 62 (graph.). United States foreign trade 1915—44.
USA:n ulkomaankauppa vv. 1915—44.
(in billions of dollars) — *(bilj. dollaria)*



The enormous increase of exports during the war-time years consisted principally of Lend-Lease goods. In 1944, when USA exports totalled more than 14 billion dollars, the cash exports amounted only to 3 billion dollars.

The possibility of maintaining and further expanding exports after the war will depend on the existence of sufficient dollar assets for foreign purchases of American goods. These dollar assets should be supplied in three principal ways: a) By profitable investments by United States' citizens of funds abroad for the economic development of other countries; b) by import of goods to the USA; c) by purchase of foreign services, principally for American tourists traveling abroad. Assuming that the post-war exports stay above ten billion dollars, it would mean that the corresponding industry would supply about five million jobs.[2] The great importance that foreign trade can attain in the post-war USA has only quite recently met with recognition in official circles. Previously it had been held that foreign trade constituted such an insignificant part of the industrial life of the USA that it therefore had no influence worth mentioning on the general tide of the market. Such a statement is, however, clearly misleading. The significance of exports should not be compared to the total volume of production, since this volume is in great part already tied up by the normal domestic requirements, but to the excess of productive capacity that arises during a shift in the tide of the market. It is not the production in its entirety that causes depressions, but only that part of it which is in excess of domestic requirements. It is important to find an outlet for this part if disturbances

[1] Neufrech 1943 p. 4.
[2] Wallace 1945 p. 3.

in the whole system are to be avoided. Even in case a diminished production cannot be avoided and serious unemployment on a large scale should be the consequence, the USA should by all means endeavour to increase its exports as a means of resisting depressions.[1]

Under the supposition that the USA succeeded in retaining its full productive capacity an increased accumulation of capital would follow, which capital could scarcely be invested at home, and, therefore, would result in foreign loans. Already after the first World War and until 1930 the USA exported about one billion dollars on an average annually. Towards the end of the 1930:ies the American exports of capital exceeded those of all the rest of the world. Since after this war no active balance of trade is to be reckoned with either in France or the Netherlands and scarcely even in England, the USA will evidently altogether dominate the international money market.

In this manner the USA possesses in a double sense a means of extending its exports. A loan granted can to a great extent be tied partly to purchases of USA goods,[2] and partly to USA investments in countries that industrially have been left behind so as to increase in a high degree their general purchasing power. The USSR and Manchuria, amongst others, have shown that a rapid industrialization is now possible.

Table 63. The USSR' industrial production in 1913—40.[3]
Neuvostoliiton teollisuustuotanto vv. 1913—40.

	Producer goods % of total prod. *Tuotanto-tarvikkeita* *% koko tuotannosta*	Consumer goods % of total prod. *Kulutus-tarvikkeita* *% koko tuotannosta*
1913	33.3	66.7
1928	32.8	67.2
1932	53.3	46.7
1937	57.8	42.2
1940	61.0	39.0

In an industrial expansion, those branches of industry which manufacture articles of consumption expand long before the ones which make capital goods. Between 1928 and 1940 the production in the USSR of articles for consumption increased only 4.3 times, while the manufacture of producers' goods and goods for the heavy industries increased 14 times during the same period.[4] This shows as clearly

[1] Compare Beveridge 1944 p. 211.
[2] This form of lending was formerly rare. Compare Sternberg 1944 p. 300: »So-called tied loans — loans for which borrowers are contractually obligated to spend the proceeds in the lending country — were rare in the American experience.»
[3] Yugow 1942 p. 14.
[4] Lorwin 1943 p. 277.

as can be desired that, from an American point of view, it would pay to take part in the industrial expansion of countries that have been left behind so as to open up new markets for USA exports. The increase of exports, that large foreign loans more or less automatically bring about can in this manner be made permanent despite the fact that the loans have to be repaid sooner or later. This line of thought, that a high national income can be partly maintained by large investments abroad was brought forth already in 1935 by Cairncross.[1] Buchanan wrote about this:[2] »In other words, the idea is now frequently voiced that not only will capital imports on a large scale be enormously beneficial to needy borrowers but that capital exports will facilitate the task of keeping output at satisfactory levels in the wealthy lending countries.» Evidently this line of argumentation has now been accepted by rather wide government circles in the USA.

The development of USA exports in connection with foreign investments, which seems to us to be the only solution with respect to the placing of an excess of production, presupposes naturally an increase of the volume of trade in its entirety. Wallace wrote:[3] »For, if a rising volume of foreign investments is to be serviced by foreign countries without placing restrictions on our exports, imports into the United States must not only increase steadily but must also increase faster than exports.» One can, it is true, presuppose that the USA itself may for some time finance a larger export by means of foreign loans, but in the long run an increase of imports must be the result on account of the simple truth that all trade is a two-sided business and that, consequently, a country that has to import American goods is in the long run able to pay for them only by direct or indirect exports of its own to the USA. Lary wrote concerning this:[4] »This is because the ability of foreign countries to satisfy their demand for our goods is closely conditioned by their ability to obtain dollars through sales to this market.» The danger of depreciation of the currency caused by a steady excess of imports cannot become actual on account of the USA's enormous gold reserves of more than 20 billion dollars. A further contributing circumstance advocating an increase in trade volume is the post-war use of the USA commercial fleet.[5]

In the investigation ordered by the Senate concerning the National Pulp and Paper Requirements in Relation to Forest Conservation it was established as early as 1935 that:[6] »Present pulpwood, pulp and paper imports enable foreign customers to purchase agricultural and industrial exports from the United States, and curtailment

[1] Cairncross 1935 p. 76.
[2] Buchanan 1944 p. 145.
[3] Wallace 1945 p. 15. Compare also Rooseveltin uudet kasvot, 1939 p. 221.
[4] Lary 1945 p. 3. Compare the basic principle of classical political economy in regard to the value of exports having to be looked for exclusively in the imported goods paid by the payments for exports.
[5] Compare p. 127.
[6] Curran and Behre 1935 p. 8.

of these imports might tend to reduce exports and increase unemployment in exporting industries.» From this ensues that such a branch of imports as the products of the forest industries the requirements of which cannot be met by USA domestic production must be considered natural and should in no way be opposed.

The trend of post-war trade policy may also exert a great influence on Finland's possibilities for trade with the USA. The significance of a free international trade has, indeed, for a long time been understood by economists. In spite of the expressed opinion against bilateralism in trade of one conference after the other during the 1930:ies, restrictions were sharpened more and more. The position taken so far by the leading powers with respect to the guiding lines for post-war trade policy are all in favour of a return to the so called triangular trade in opposition to the more or less direct barter that the system of restrictions brought about. At the International Trade Conference at Rye in November 1944 it was established »att den allmänna meningen tveklöst önskade en återgång till de fria förhållanden, som voro rådande inom världshandeln före det första världskrigets utbrott år 1914.»[1] (that popular opinion was unhesitatingly in favour of a return to the free condition of world trade before the outbreak of the first World War in 1914.) General opinion held that the best way to carry through such a return to forms more friendly toward free trade would be a renewed application of the most favoured nation clause in an unconditional and unlimited form, whereby the multilateral trade system, which has been universally aspired to, would be automatically attained.[2]

A return to the unconditional most favoured nation clause has been recommended by the Committee on International Economic Policy as well as by the British National Committee of the International Chamber of Commerce.[3] Also the International Trade Conference at Rye accepted a statement in the same spirit and for putting the matter in practice proposed the conclusion of a common multilateral trade agreement open to all countries which should constitute a frame for separate commercial treaties. By this skeleton-agreement the states would engage themselves to lower customs duties, abolish quotas and import restrictions, do away with all discriminating measures and apply the principle of most favoured nation in spirit and truth in their special agreements.

The above statement shows a rather strong overrating of the capacity of the most favoured nation clause in furthering international trade. The clause is no panacea for restrictions. Procopé said about it:[4] »Se ei yksinään ole mikään sesam-sana, joka taikaiskulla avaisi kaupalle portit, vaan se on eräänlainen takuu siitä, ettei portteja avata yhdelle sopimuspuolelle ja suljeta toiselta.» (It is not in

[1] Stiernstedt 1945 p. 42. Compare also Beveridge 1944 p. 217: »It is obvious that a multilateral system has great advantages.» Further Harris 1943 p. 149: »The peace, I repeat, will be won or lost on the issue on free trade.»
[2] Stiernstedt 1945 p. 42.
[3] Compare World Trade 1944.
[4] Procopé 1938 p. 120.

itself any open-sesame to open the gates to trade by a wave of the magic wand, it is much rather a guarantee that these gates shall not be open to only one contracting party and closed to the other.) During the 1930:ies this clause, quite contrary to its purpose, often proved to be a hindrance instead of an aid to freer trade. At this point we need only to recall the attempt of the so called Oslo states to lower their trade barriers. A return to the application of the clause in its unconditional form would, it is true, make trade regulation by quotas impossible, but it would not bring with it customs duty alleviations but rather the contrary. The proposal of the International Trade Conference concerning a common trade agreement implied only an extension of the most favoured nation clause to more and more countries, a fact which would only lead to a keener competition between them.[1] It seems to us that, for instance, the broad interpretation applied to the most favoured nation clause in the commercial treaties between the USA and Sweden, respectively Finland, was more advantageous.

It is difficult to predict how far a return to more amicable feelings toward free trade really could be carried through after the war. It must be remembered that the above mentioned proposition originated from economic circles and not from the political ones in power. The trade political fiasco during the 1930:ies does not instil any greater hopes as to the future. As was shown, the breaking through of bilateralism during the 1930:ies depended to a great extent on claims for economic war-preparedness. How far a system for international collective security can be realized after the war will decisively influence the extent to which the multilateral system will be reintroduced. It is evident, nonetheless, that the USA can to a high degree influence post-war trade policies. It must be remembered that the USA as the greatest industrial nation in the world will have possibilities of influencing in a decisive manner the world economy in its entirety. It is very probable that the USA will control between 80 and 90 per cent of the world's money market. By appropriately linking granted credits and trade agreements together in furtherance of free trade the USA has the possibility of accomplishing more in a short time than would a series of international congresses during decades. The USA have so much more reason for adhering to this policy with all their power, since post-war foreign trade as shown above will be of the greatest importance to the USA productive machinery as a whole.[2]

Should the USA, nevertheless, use this its superiority inappropriately in opposing all competitors to the bitter end, the consequences would undoubtedly be a new wave of protectionism with trade barriers all over the world. The temporary advantages that the USA could gain thereby would have no value unless the whole world had the possibility of obtaining economic prosperity. The consciousness of this

[1] Compare Kovero 1945 p. 72.

[2] Compare for instance Sternberg 1944 p. 292: »No one can doubt, however, that a more rapid and more intensive development of American exports would be of the utmost importance for the economic stability of this country, as well as for the long-term welfare of large regions abroad.»

seems in fact to have gained more ground within the circles in power in the USA. Congress thus recently extended the validity of the Reciprocal Trade Agreement Act by three years and, besides, entitled the government to lower customs duties in force by a further 50 per cent. If this lowering of the duties is carried through, they will be only 25 per cent of the amounts fixed by the Tariff Acts of 1930 and 1932. It is under no circumstances possible suddenly to do away with all the barriers that have been built up in order to hamper international trade. But the course taken up by the USA with trade agreements by which customs duties are successively lowered seems to us under present circumstances to be the most natural and most practicable line.

Since an extension of the trade volume of the USA is an important presupposition for the stabilization of industrial life in the USA, and the attendant trade policy should greatly favour free trade, it seems that at least in this respect there should be no hindrance to Finnish-American post-war trade.

The question as to the organization of international money policy after the war also stands in close connection with the trade policy. Generally speaking a return to freer forms of trade is scarcely to be imagined without a stable international monetary system. The directing lines drawn up at the Bretton Wood Conference in order to settle this question are certainly easier to realize in practice than the abolishment of trade restrictions. The founding of an international currency stabilization fund according to the proposition of the Bretton Wood Conference would without doubt be the happiest solution. Experts in the USA, however, are rather critically disposed to this proposition, especially with regard to the object of the fund, viz. to further an increase in international trade and production as well as an equalization of the international balances of payment. It is also feared that the manner in which the capital for this fund is to be collected would lead to a drawing down of the good currencies to the same level as the bad. It is evident that the proposal, if it were realized, would soon cause a serious dollar crisis.[1] But it ought not to be impossible to realize an appropriate remodeling of the plan. It must be remembered that free trade and the abolishment of currency control are ultimately the most effective way to obtain a stabilization of currencies and equilibrium in the balance of trade.[2] However, a firm rate of exchange between the USA dollar and the Pound sterling would be a decisive contribution to an international currency stabilization.

It is not necessary within the limits of this treatise to add further to the already plentiful literature concerning plans for currency stabilization, but it is evident that great possibilities for attaining to an international monetary equilibrium seem to exist, so that currency conditions should not constitute any obstacle to world

[1] In order to obtain a more detailed scrutiny of the criticism that has been directed against the Bretton Woods proposal see the opinions of Williams and Aldrich referred to in Svensk Utrikeshandel 1945 No 5 p. 21.

[2] Compare Condliffe 1945 p. 11.

trade.[1] As soon as an international currency stabilization in one form or another has been attained, one of the principal causes of irritation in the USA with regard to imports of products of the pulp and paper industry will disappear. The opinion of the domestic producers was, as we know, that unfair competition in the form of dumping by the aid of depreciated currency was generally prevalent during the 1930:ies. In the paper prepared by the U.S. Pulp Producers' Association concerning guiding lines for the post-war policy of the USA pulp industry it is also brought forth with all clearness that no form of dumping will be permitted. »To that end, the industry proposes to use every legal resource at its command, and to seek government assistance if necessary, to ensure fair and equitable competion in the merchandising of its products.»[2]

The question as to shipping and available tonnage is also of great importance for the prospects of post-war trade. A superficial study easily gives the impression that the world's mercantile fleets were fatally decimated by the war. A more detailed scrutiny gives, however, an altogether different idea of the situation. The total tonnage of the world in 1939 amounted to 68.5 million gross tons, of which 55.7 million gross tons were sea-going vessels.[3]

According to data published up till now the position at the end of 1943 was the following:[4]

	Losses (1 000 tons)	Launchings (1 000 tons)	Net change (1 000 tons)
1939—40	7 290	3 000	—4 290
1941	7 180	2 760	—4 420
1942	11 000	8 800	—2 300
1943	8 500	14 200	+5 700

According to this estimate the total net losses at the end of 1943 amounted to 5.3 million gross tons. Official reports in the USA have asserted that the entire losses in tonnage during the war had been covered at the commencement of 1944.[5] It is difficult to judge to what extent reasons of war propaganda have influenced these official utterances so that a more cautious attitude is probably the surest. Since it has no doubt been possible to carry through the shipbuilding program of the USA for 1944 simultaneously as the losses from submarine warfare decreased, it can be believed that the pre-war trade volume under any circumstances was reached and exceeded during 1944.[6] The actual figure for the commercial tonnage of the whole world

[1] Compare Sharp 1944 p. 938.
[2] Postwar Policies for the United States' Wood Pulp Industry 1944 p. 8.
[3] Lachmann 1944 p. 52.
[4] Lachmann 1944 p. 53.
[5] New York Times 1944 January 4th.
[6] Compare Lachmann 1944 p. 53: »If the war were to last through 1944 the net loss would be reduced to an insignificant figure.» Compare also the development during the previous World War, when the trade tonnage at the outbreak of the war was 49.0 million tons and in 1919 50.9 million tons.

is rather above than under 60 million gross tons.[1] Taking also into consideration the fact that it takes time to reorganize the ship yards for peace time production, it is evident that future world trade need not reckon with any shortage of tonnage. A certain lack of vessels of a special type and of passenger boats may prevail, but commercial vessels of the Victory type are appropriate for goods traffic in peacetime without any changes. The Liberty vessels on the other hand are not considered fit for competition in freight traffic, since their maximum speed is only nine knots.

The share of the USA in the total tonnage of the world has also radically changed. Before the war the USA with 8.5 million gross tons occupied the second place, far behind England's 15 million tons. During the war the commercial fleets of England and Germany have suffered enormous losses, while the shipbuilding program of the USA has attained record figures, so that the commercial post-war tonnage of the USA will amount to more than 50 per cent of that of the whole world. The commercial fleet under the War Shipping Administration in 1945 was estimated at 3 800 vessels with a total of 40.8 million tons according to statements published by the American government. During the war, American wharves built more than 4 300 commercial vessels totalling about 45 million tons.[2] Before the war about one third of the USA sea-going commercial fleet sailed in foreign traffic. The share of domestic vessels in carrying the imports and exports of the USA just before the outbreak of the war was as follows:[3]

	Imports	Exports
1937	31 %	20 %
1938	37 »	19 »

The enlargement of the commercial fleet of the USA means in reality that: »The American post-war marine would not only amply provide for the transportation of all of the foreign trade of this country (assuming a pre-war volume of trade) but leave room for a substantial participation in non-American trade.»[4] Such a development, nevertheless, is not very desirable even from a USA point of view. To take over the USA's whole trade on vessels of its own would among other things mean a heavy blow to the incomes of several European countries and their capacity for financing the imports of American goods. The economic reconstruction of the said countries would on the contrary be considerably facilitated, if their previous share in the sea transports of the world were reestablished. Statements by authoritative circles in the USA also take this line. Powell wrote in New York Times:[5] »I don't ever expect that this country in time of peace can or should carry more

[1] Compare Adler 1944 p. 193.
[2] Industria 1945 No 6 p. 292.
[3] U.S. Department of Commerce 1940 p. 469.
[4] Adler 1944 p. 194.
[5] New York Times 1942 September 10th. Compare also Lachmann 1944 p. 71.

than 40 to 50 percent of its own cargo in its own bottoms. I think it would be a grave error if we tried to carry more than 50 percent.»

If one presupposes that the USA will transport about 50 per cent of its foreign trade in domestic vessels after the war, and that this foreign trade will amount to the volume of that of 1929, the superflous part of the commercial fleet, that is to say about 20 million tons must be sold, or leased to other countries. Such a transfer of USA tonnage would chiefly benefit the other allies, but it is not impossible that also Finland would have a chance of increasing its at present almost non-existent commercial fleet. About one third of Finland's pre-war tonnage, 500 larger vessels totalling 700 000 gross tons, still exist, but of these 44 vessels were handed over to the USSR as war-indemnity.

The above investigation of the tonnage situation shows that the serious menace to Finland's entire foreign trade, brought about by the heavy losses of the Finnish commercial fleet, will not be a direct hindrance to a post-war Finnish-American trade. According to its regulations the International Shipping Pool was wound up within six months after the end of the war with Japan; the costs of freight will now be influenced by normal economic factors.[1] Even if during a long time Finland is not able to increase its own commercial fleet, the excess of trade tonnage, nevertheless, will keep freights down and make regular traffic possible. The post-war tonnage is also estimated to suffice for an expansion of world trade by 20 per cent in excess of the volume of 1929.[2] The loss of Finland's commercial fleet involves a decrease of shipping incomes and thereby indirectly influences her ability to paying for imports from the USA.

[1] Compare Sjöfartspoolen utsättes för stark press från många håll, 1945 p. 324.
[2] Adler 1944 p. 205.

The possibilities for Finnish-American post-war trade in forest products.

After this short review of general post-war problems, we shall now treat the more direct assumptions concerning a Finnish-American post-war trade in products of the forest industries. It is true that it is still difficult to judge what kind of lasting changes the war has caused in respect to the USA market, but some specific traits should, nonetheless, be pointed out.

The expansion of the industry of the Southern states in the USA occurred, as we know, at a highly accelerated pace. Originally, the cheap fuel and the cheap raw materials of the Southern states as well as the low wages there contributed to this development. Besides this, there was the need of laying hold in time on the most appropriate places for the industry. At present, a rather marked change has occurred with respect to these factors. The best situated timber resources have been exploited, so that a lengthening of the timber transports can not be avoided. The price of pulp wood in 1945 had risen to 11—13 dollars per cord or to double that of 1935. Demmon wrote:[1] »And in certain localities, cutting and other drain have so far exceeded growth that the maintenance of established forest industries is threatened.» The low wages also are at present a myth on account of the strong industrialization of the region.[2] This industrialization must lead to a considerable increase in the consumption of products of the pulp and paper industry per inhabitant. Displacement of the original factors of production has in a high degree reversed the favourable conditions the industry enjoyed in its inception. If a further expansion of the production is realized after the war, it will be possible only in full competition with the rest of the world. Crosby wrote concerning this:[3] »Sentiments in the South seems to be that only one or two new kraft mills may be built after the war, but several companies are planning expansion of present facilities.» In spite of considerable improvements in the quality of the Southern states' pulp, thanks to eager research activity, it must at present be considered out of the question that a newsprint industry able to meet competition, based on this pulp as raw material, should

[1] Demmon 1941 p. 2.
[2] Compare Browaldh 1945 p. 3 and Spachner 1943 p. 4. For a more detailed scrutiny of the industrialization up to the outbreak of the war see Herring 1940.
[3] Crosby 1944 p. 20.

spring up and grow within a reasonably near future.[1] The difference in grade between the Southern states' pulp and that of the North is still so considerable that a difference in price of ten dollars is normal. Besides this difference, there are still other factors with a negative influence. Amongst other things to be taken into account can be mentioned the reluctance of the publishers to make use of a new product, the difficulties of entering a market which is already well supplied, the costs of transport and the competition of the sawmill and the Kraft paper industries. The consumption of newsprint in the Southern states is only about 300 000 tons and there is no possibility of competing within other regions, for instance with the Canadian newsprint. The rather uncertain menance to the imports of products of the pulp and paper industry that the development in the Southern states constituted during the 1930:ies can at present be considered as limited to the sulphate and board markets.

Another interesting trait is the war-time development in the USA's own exports of pulp and paper products. Up to 1939 these exports were rather insignificant, amounting to 2—3 per cent of the total production. Between 50—85 per cent of the pulp exports consisted of rayon grades of bleached sulphite exported from the Pacific coast to Japan. As the war menace became clearer and clearer, the South American republics began to try to rapidly enlarge their stocks, with a resultant increase in their purchases from the USA. Thus in 1939 the USA exported 20 100 tons of pulp to the South American republics, while the corresponding exports in 1937 were only 5 000 tons. In 1940 the exports were already up in 83 540 tons. The paper exports also increased in a corresponding degree. In 1941 war-time conditions began to influence the paper and pulp markets of the USA more and more. The critical situation with regard to meeting domestic requirements as well as the lack of mercantile tonnage hindered a further increase of these exports.[2]

On the other hand, considerable quantities of pulp were exported to England as Lend-Lease goods during the war, amounting to 300 000 tons annually. Besides all normal grades these exports embraced large quantities of Alpha-pulp for the silk and ammunition industries. England received these quantities gratis from the USA, while the imports from Canada have been paid cash down. It seems scarcely probable that these exports should continue during normal times. The continued close economic coöperation between England and the USA also after the war, which Jansson and Kulvik assumed as a precedent for continued exports, is not to be expected.[3] The interests of the USA and England with respect to markets for their exporting industries coincide to such a degree that a serious competition must ensue. Besides, the currency conditions have to be remembered, as the above

[1] Compare Langdon 1944 and Guthrie 1941 p. 219: »it is safe to predict that newsprint made from southern pine will not penetrate the northern consuming markets to any appreciable extent for a considerable period of time.»

[2] Compare p. 81 concerning compulsory licences and other regulations of exports.

[3] Jansson and Kulvik 1945 p. 95.

mentioned writers quite correctly bring forth, which, thanks to the strong inflation in Europe, will favour the Scandinavian countries rather than the USA with regard to the English market.

The exports to South America have, it is true, also come into existence on account of the war, but there are many things indicating that they will be permanent and develop still further after the war. The process of industrialization that South America is passing through at present has brought with it the creation of an extended domestic pulp and paper industry.[1] But according to previous experience, the consumption of paper products per inhabitant will increase at a yet greater rate. There will thus exist a great need for imports. A propaganda calculated to draw the South American republics closer to the USA economically as well as culturally has been practiced in the USA ever since the outbreak of the war. Also Central America and Australia have to a certain extent received USA pulp and paper products, and a continued expansion of these exports should be possible. Coxe wrote:[2] »There is, however, the distinct probability that Australia, New Zealand, China, British India, and other Far Eastern countries eventually will become increasingly important buyers of United States paper and paper products.» Also an increase of the exports to Japan must be possible, since this country had introduced restrictions with regard to sulphite pulp as early as 1937.

This rather curious fact, that the USA appears simultaneously as importer and exporter of the same kind of goods, is in many cases a question of transports and of freight ensuant upon the enormous area of the continent. There can be no question, for instance, of transporting pulp or paper from the Pacific coast to the East coast by land. In order to maintain the greatest possible trade, it is natural that the excess of paper products existing in the Southern states as well as at the Pacific coast should partly be exported, while the deficit in the Northeast is covered by imports from Canada and Scandinavia.[3] It might be possible to save not insignificant costs of freight in this manner. Haberler wrote:[4] »Man darf auch nicht einwenden, dass der Transport von Kapitalgütern innerhalb eines Landes mitunter viel schwieriger und kostspieliger sein kann, als von einem Land ins andere, dass er z.B. zwischen dem Osten der Vereinigten Staaten und den pazifischen Staaten der Union teurer ist, als zwischen den atlantischen Staaten der Union und den nahe dem Meere gelegenen Gegenden Europas.» (Nor may the objection be made that the transportation of capital goods within a country may under certain circumstances be much more difficult and more expensive than transport from one land to another, being, for example, more expensive between the eastern United States and the Pacific states than between the Atlantic states of the USA and those regions of Europe situated near the sea.) This undoubtedly is quite true, and is shown by the

[1] Pulp and Paper Industry Report 1944 p. 10—11.

[2] Coxe 1944 p. 523.

[3] Compare Halse 1944 p. 20.

[4] Haberler 1933 p. 3.

following table giving the costs of transport of newsprint from the Pacific coast, Alaska, and Canada to different ports in the USA.[1]

Table 64. Estimated cost of carrying newsprint from tidewater mills on the Pacific coast to Atlantic and Gulf ports 1937 (Dollars per short ton).
Arvioidut sanomalehtipaperin kuljetuskustannukset merenrannikolla olevista tehtaista kulutuskeskuksiin ($/short ton).

Consuming center — *Kulutuskeskus*	Powell River, B. C.	Alaska	Maine, Nova Scotia, Newfoundland
San Francisco	4.50	4.90	7.00
Los Angeles	4.70	5.10	6.75
Galveston, Houston and New Orleans	7.20	7.60	4.25
Jacksonville and Charleston	7.30	7.70	4.00
New York, Philadelphia, Boston	7.60	8.00	3.50

Costs of freight from Powell River and Alaska to East coast ports are clearly higher than the corresponding ones from the north of Europe. About $ 2.75 of the above figures are calculated for maintenance of the ship in port and for loading, unloading, storage and the like. The corresponding railway freights are considerably higher. The fact that European paper has been able to compete successfully even on the Pacific coast is due to the large excess of USA goods exported to Europe. In order not to have to return in ballast many vessels rather load paper at subnormal freight rates.

The USA post-war export of products of the pulp and paper industry is doubtless a fact, which it must be possible to take into calculation, when judging the possibilities of exports from the north of Europe. The figures that such exports will reach depend on the requirements and the production of the USA themselves as well as on the total requirements of the whole world.

On broad lines the need for imports to the USA has not changed to the degree that might easily be supposed in consideration of the rearrangements caused by the war. Hall wrote concerning this:[2] »Några verkligt genomgripande förändringar i den amerikanska industrins förkrigsbehov av importcellulosa ha heller icke inträtt under den tid avspärrningen varat, och expansionen inom den amerikanska massaindustrin under samma tid har varit mycket måttlig.» (Nor have any really profound changes taken place in the pre-war needs of USA industry for imported pulp during the period of isolation, and the expansion of the American pulp industry during this period has been very modest.)

The inner structure of the market, on the other hand, shows considerable changes, which claim a more detailed scrutiny in order to be able to judge the grades of paper and pulp that will be imported. Until the depleted stocks have been filled,

[1] Guthrie 1941 p. 195.
[2] Hall 1945 p. 45.

the demand for all grades is calculated to be lively.[1] The production of paper and board in the USA in 1942 amounted to about 15 million tons, the following amounts of pulp being consumed for this manufacture:

Sulphite pulp	3.3 million tons
Sulphate pulp	4.3 »
Ground wood pulp	2.2 »
Other kinds of pulp	0.9 »
Waste paper etc.	4.5 »

At present, 75 per cent of this is consumed by wholly or partly self-supporting mills, while 22 per cent is consumed by converting mills. The remainder is used for other purposes than the manufacture of paper. The domestic purchasing market of the USA before the war absorbed about 0.6 million tons. The USA purchasing market, corresponding to the sum of the sales of domestic and imported pulp, has curiously enough not increased during the years of war (except with respect to bleached sulphite) in spite of the great increase in consumption and production. This evidently is due on the fact that several converting mills have built their own pulp mills or bought such already in function and therefore have left the purchasing market. The increase in the consumption of waste paper also tends toward a decrease of the pulp market. Further, many partly selfsupporting mills have increased their own manufacture of pulp and have thus become less dependent on the purchasing market. Certain signs indicate that the greater part of the excess pulp that has appeared on the market will disappear, when imported pulp is again to be had. As already said, the mills have been running with such greatly increased capacity during the war-years without being able to execute necessary repairs or proper overhaul, that a decrease in production is bound to follow. Also, the use of waste paper has increased by 50 per cent compared to the pre-war period. The use of waste paper, however, entails lower quality, particularly with regard to the dirt content of the paper. During normal times, when quality is the determining factor, waste paper is not used at all in many fields.[2]

A survey of the principal grades on the pulp market of the USA shows the following specific traits.

The increase of capacity with respect to bleached sulphite pulp between 1937 and 1941 was about 300 000 tons, of which two thirds paper grades. The increase was proportionate to the production of book-, writing-, and tissue-paper. The domestic market increased at the same time from 360 000 to 700 000 tons. The following table shows the development.

	Average 1937—39	Average 1940—42
Domestic sales (paper grades)	265 000 tons	458 000 tons
Imports	326 000 »	230 000 »
U.S. market	591 000 tons	688 000 tons

[1] Compare p. 87 note 1.
[2] Compare Market Review of the American Association of Wood Pulp Importers Inc. 1943.

The increase of about 100 000 tons indicates a conservatively growing trend in consumption, which may well be able to absorb larger imports in the future. The imports of bleached sulphite that ceased during the war were replaced almost entirely by deliveries from the West coast, where production continued to increase. Besides this, the Pacific coast had previously had exports of a certain significance, which came to an end when the war began. Theoretically, the USA themselves are during normal times able to manufacture the quantity of bleached sulphite pulp that is required, namely by an extension of the West coast production. The hemlock pulp manufactured has, however, a different character than the Finnish 100 per cent spruce pulp. The development towards higher bursting strength in certain kinds of paper, which development can be ascertained, entails demands on a bleached sulphite for high bursting strength and a somewhat whiter colour, which can be had only by using 100 per cent spruce raw material. A combination of these types of pulp, therefore, seems the most appropriate, since the hemlock pulp has a higher tearing strength and is free of rosin, while the spruce pulp possesses the greater fiber length and the highest burst strength. Continued imports of some bleached sulphite pulp of a strong type for the manufacture of paper can thus be assumed. As to rayon pulp and other high grades of bleached sulphite pulp the USA pulp mills have succeded in finding fully satisfactory grades. As soon as the capacity exploited by the war industries for the manufacture of cellulose nitrate has been released from restrictions and an expansion of the USA bleacheries has been carried out, the USA ought to be rather independent of imports. Amongst others Halse came to this view in 1944.[1] We for our part, nevertheless, are of the opinion that the increase in the consumption of rayon pulp alone, which took place during the war years, must give place to future imports, if the exports from the USA itself from the Pacific coast to Japan are taken into consideration. This will at all events be the case, if the development of the rayon industry follows the same line as that along which the paper manufacture has passed. If, in other words, pulp supplants cotton, as cellulose supplanted rags as raw material.[2]

The production of unbleached sulphite was about 900 000 tons four years before the outbreak of the war and in 1942 had risen to 1.2 million tons. The imports during the years immediately before the war amounted to 700 000 tons of unbleached sulphite pulp, chiefly strong pulp. The changes in the domestic purchasing market are shown in the collocation below.

	Average 1937—39	Average 1940—42
Domestic sales	139 000 tons	355 000 tons
Imports	692 000 »	349 000 »
U.S. market	831 000 tons	704 000 tons

[1] Halse 1944 p. 12.

[2] Compare Jansson and Kulvik 1945 p. 79: »ja vie kehitys varmaan siihen, että tulevaisuudessa tekokuidut työntävät luonnonkuidut yhä enemmän syrjään.» (and future developments will surely lead to an ever greater displacement of natural by artificial fibres.)

This shows that the integrated pulp mills, which were only partly selfsupporting, have raised their capacity and thus left the market. When the imports from Europe ceased, it appeared that it would be very difficult to replace unbleached sulphite by another pulp. This was especially true with regard to the glassine mills. The consumption remained rather unchanged on account of the lack of imports and inasmuch as bleached pulp was substituted for a part of the unbleached sort. This holds good with respect to several grades of tissue- and sulphate paper for waxing and wrapping. This lack has also entailed the entry of bleached sulphate pulp into fields, where sulphite pulp was formerly used exclusively, for instance for certain grades of printing paper. The above indicates that considerable imports of unbleached sulphite pulp are to be reckoned with after the war.

Thanks to the industrialization of the Southern states, the unbleached sulphate pulp, the production of which in 1938 had amounted to two million tons, in 1942 increased to four million tons. The sales of domestic sulphate pulp, nevertheless, have always been insignificant. The market in the USA was as follows:

	Average 1937—39
Domestic sales	37 000 tons
Imports	480 000 »
U.S. market	517 000 tons

The purchasing market before the war was 22 per cent of the total consumption but had in 1940—42 decreased to only 11 per cent. The share of imports in the purchasing market, which in 1937—39 was 94 per cent, decreased to 40 per cent during 1940—42. During the war, many paper mills have moved their bag factories and converting mills to the Southern states, so that the need for imports of sulphate pulp decreased in the Eastern states. The consumption of Kraft pulp for paper bags was thus doubled in the Southern states during 1939—44. The enormous industrialization which has taken place in the Southern states, greatly increasing the capacity for sulphate manufacture, will to a certain extent influence the post-war imports of unbleached sulphate disadvantageously. Halse's opinion, nonetheless, is that the USA will import Kraft pulp of better grades, for the manufacture of, for instance, insulation and other technical grades of paper, and also a grade of pulp appropriate for bleaching.[1] This opinion is supported by the fact that several sulphate mills during the war-years increased their manufactures of higher grades by strained work, but probably will now return to the manufacture of lower grades. Many independent paper mills that during the war were forced to fall back upon assorted waste paper to be mixed with the scanty ration of sulphate pulp will surely return to imported pulp.

The manufacture of bleached sulphate has almost doubled during the war, amounting to about 800 000 tons in 1942. The consumption during a sequence of

[1] Halse 1944 p. 14.

years has grown at a pace of 100 000 tons annually. The sales of domestic pulp, however, have remained rather constant at 70 000 tons. The increase in consumption is thus wholly attributable to the selfsupporting mills, most of which are integrated or connected with companies in other parts of the country. The large printing-paper mills, particularly in the Eastern states, have built pulp mills of their own in the South and thus withdrawn from the market. The disadvantageous development this implies for future imports is partly counterbalanced by the fact that bleached sulphate has taken over a part of the normal increase of consumption of sulphite pulp. Bleached sulphate is now used also for other grades of paper than printing paper. Unbleached sulphate is also, to a certain extent, bleached at converting mills for their own requirements, representing a steady consumption. An addition of bleached sulphite to waxing and other kinds of sulphite papers has developed a stronger and in certain respects improved paper, so that one may reckon with a continued increase in the consumption of bleached sulphate. As is the case with unbleached sulphate, it seems that imports of higher grades of bleached sulphate pulp can be assumed for a rather near future.

Ground wood pulp plays a considerable smaller part than chemical pulp on the USA market. The following figures show the average of the sales before and after the war.

	Average 1937—39	Average 1940—42
Domestic Sales	24 000 tons	44 000 tons
Imports	183 000 »	178 000 »
U.S. Market	207 000 tons	222 000 tons

The imports of ground wood pulp during the war amounted to about ten per cent of the total consumption, and Canada has been the only contractor. The low figures for the domestic sales are due to the high costs of transport, since the pulp is chiefly delivered wet in separate sheets, which, besides, do not stand being stocked on account of the danger of moulding. Therefore a greater change in the domestic sales is not probable. No new mills have been added during the past few years, so that the demand ought to hold good. In a survey executed in the USA [1] it is also stated that a highgrade, dry, ground wood pulp in bales will certainly be imported. On the other hand, ground wood pulp is used principally for the manufacture of newsprint paper, and an increase of its consumption to the extent of that of other kinds of paper can no longer be counted upon. One circumstance indicating an increase of imports in the future is that the ground wood pulp is still to a great extent manufactured from spruce raw material, which must be considered as an enormous waste of a valuable material.

As to the newsprint market, we have already stated above that a reintroduction of customs duties on newsprint imports in the USA is not to be feared. Ever since

[1] Market Review of the American Association of Wood Pulp Importers Inc. 1943.

1913, when the long drawn out struggle between the publishers and the domestic newsprint producers was settled to the advantage of the former, the influence of the publishers has grown stronger and stronger. It is true that the Association of Newsprint Manufacturers of the United States as late as in the summer of 1935, in connection with the tariff negotiations with Finland, made a very sharp attack against the granting of any kind of guarantee for exemption from customs duties on newsprint. The newsprint imports from Europe were defamed in a memorial, which even in other respects was rather negative.[1] At present the Americans themselves, however, have found out that the exemption from customs duties has in the end been useful. Guthrie wrote about it:[2] »The absence of tariff on newsprint entering the United States has, on the whole, been beneficial. It has resulted in productions being centered in the areas best suited to the manufacture of cheap paper, and has, therefore, assured the American consumer a cheap and plentiful supply of newsprint.»

No menace from competition of the Pacific coast on the East coast market is to be feared in spite of the low total costs of newsprint manufacture on the West coast.[3] There exists, namely, a gentlemen's agreement between the East and the West coast mills not to invade each others' territories, since reciprocal reprisals could easily be the result.

The exemption from duties concerns only standard newsprint paper, the grade stipulations of which are as follows:

Cellulose contents not more than 30 per cent
Ash contents below 2 per cent
Gluing according to the Ground-glass method 10 seconds
Gram weight to be 48.8 minimum and 56.9 gr/m² maximum
Machine glazing not more than 50 per cent I.G.
Roll diameter not to be less than 28″
Paper bulk must unconditionally be below 4 points or 0.1016 mm.

The USA press has several times made attempts to obtain the right to import glazed newsprint paper free of duty. Also a change in the stipulations for standard newsprint paper, for instance so that the permitted bulk should be raised, would be advantageous, since exports for cheaper magazines and newspapers could thus be worked up. The limitation of the paper surface prevents the resale of S/C newsprint.

As shown by the analysis, plywood and lumber are of secondary importance for Finland's exports to the USA.

The sales of plywood to the USA commenced in 1926. The Finnish Plywood Industry Association exported the following quantities during the first years:

[1] Compare Kellogg 1935.
[2] Guthrie 1941 p. 228.
[3] Compare Financial Post 1933 October 14th.

	m³	cub. feet
1927	464	16 379
1928	1 216	42 925
1929	774	27 322
1930	77	2 718

The import duty during this time amounted to 33 1/3 per cent ad valorem but was raised by the Tariff Act of 1930 for birch and alder plywood to 50 per cent, which was quite prohibitive. During the years 1930—36 there were no exports of plywood. When the customs duty was lowered again to 33 1/3 per cent by the tariff agreement of 1936 between the USA and Finland, a slight importation started. However, until the outbreak of the war, the market did not realize the hopes that were nourished by the reduction of the duty. The reasons were to be found principally in the difficulty of introducing a new article and in the turn in the tide of the market in 1938. It is also questionable whether or not a sufficiently energetic sales policy had been carried on. At any rate the coöperation in questions of prices seems to have been very bad. The USA representation was also weak.[1]

The question as to the possibilities of an expansion of the Finnish exports of plywood to the USA is principally one of customs duties. A further lowering of the duty on birch plywood should not, from a trade political point of view, be impossible for Finland to obtain, since the USSR, as mentioned, exports principally alder plywood and since the USA imports are insignificant in relation to the domestic production. Already at the tariff negotiations in 1936, endeavours were made from the Finnish side to get the duty on plywood lowered to ten per cent, but the attempt failed. There seems to be cause for a new attempt in this direction within a near future.[2]

Besides the customs duty there are also some other circumstances that make exports more difficult. The standard sizes in the USA are from 72″ up, while in Finland there is seldom raw material to be had for goods above 60″.[3] A certain adjustment of the Finnish manufactures according to USA requirements ought, however, to be possible. The USA plywood is principally of pine wood so that it ought to be possible to sell Finnish birch plywood, especially in the Eastern states. The Finnish birch is considered better than the American, which latter, besides, is scarce.

The organization of the Finnish sales policy on the model of that of Finland's pulp and paper industry is an absolute condition for the working-up of a larger market. Divided action from the side of the producers makes the handling of a market of the USA's size impossible without further ado. The Finnish plywood factories evidently still have much to learn in this respect. In the USA many factories cooperate even when it is a question of improvements of manufacture and other subjects, while such in Finland are better kept than many a state secret.

[1] Compare Försäljningen av finskt faner till U.S.A., 1936 p. 920.
[2] Compare p. 125.
[3] Compare [Jansson] 1930 p. 486.

The new plastic veneer that the USA have begun to manufacture more and more[1] constitutes so far a factor that cannot yet be calculated. Sawdust and other wood wastes are suitable as raw material, so that the lack of plywood timber that was menacing can be considered overcome. It remains to be seen whether the Finnish birch plywood will equal this new grade.

Finland's lumber exports to the USA have been and apparently will continue to be very small, which makes it unnecessary to elucidate this question further.

[1] Compare PPPI 1944 No 3 p. 5.

Summary and conclusions.

It remains to sum up the principal points of our analysis. We have found that Finnish-American trade, from an insignificant beginning in 1919, has been steadily growing in importance and at the outbreak of the war occupied third place in Finland's total foreign trade. Over 90 per cent of the Finnish exports have during all this time consisted of products of the forest industries. Pulp and newsprint occupied a dominant position among these articles, while the exports of lumber and plywood had neither of them passed the experimental stage.

As to the economic result, we showed that the prices in the USA, so far as the sulphite pulp is concerned, have been sufficiently high during a normal tide of the market for the net average price to be more advantageous than on other principal markets. The sulphate prices, which previously had been advantageous, sank towards the end of the 1930:ies evidently on account of the onward march of the USA sulphate industry. The average price for newsprint was less advantageous during all of the 1930:ies.

The sales organization was creditably handled, thanks to the sales associations of the pulp and paper industries, and it is rather questionable whether it would have been possible for the Finnish forest industries to gain a footing on the market of the USA in any other way. The lack of corresponding, firm central organizations for plywood and lumber was a concomitant cause for the failure to work up the sale of these articles for export. An arrangement of the agency question in the USA seems also to have been approaching an advantageous solution during the years before the outbreak of the war. Continued endeavour to transfer the activity of the agencies to domestic forces must guide Finland's efforts for the future; even though the question concerning agents of our own or foreign ones is of minor importance as compared to the question of competency. As to the international trust activity that flourished during the 1930:ies, we showed that it could hardly have been able to influence the market in the USA, where the domestic sales plus the imports of products of the pulp and paper industry did not amount to more than a small fraction of the total production. During the war a very bitter feeling appeared in the USA towards all kinds of trust activity. We stated that this feeling of animosity has of late been directed also against the associations of the forest industries, so that a reestablishment of the activities of international trusts cannot be recommended to exporters to the USA market.

A comparison between Canadian and USA newsprint mills showed that in many regions they had to calculate with about as high costs of transport as the Finnish mills, with exception of the mills in the Lake states which are particularly well situated with regard to centers of consumption. The difference in freight rates has made larger exports of wet pulp impossible. As to lumber, the costs of freight will always be a hindrance difficult to overcome for economically paying exports.

The trade- and tariff policies between the USA and Finland were arranged by the agreements of 1934 and 1936. The fact that only a provisional agreement on these questions existed before this time surely made the quantitative expansion of mutual trade a great deal more difficult during the previous years. It must be possible in future trade negotiations to further adjust the customs duty reductions obtained for the Finnish forest products by the Tariff Agreement of 1936. Finland ought first to work in order to obtain a lowering of the customs duties on plywood and on wrapping paper and at the same time to obtain certain changes of the specifications for standard newsprint paper, so that calender-glazed paper and paper of greater bulk can be imported to the USA free of duty.

Concerning the forest industries of the USA itself, we found that the production up to 1942 had increased strongly as to pulp as well as to most kinds of paper. The production of newsprint has, on the contrary, tended to decrease ever since the middle 1920:ies.

A scrutiny of the USA raw material resources showed that there is no lack of timber, even if the cuts so far exceed the total growth. We established, nevertheless, that a considerable timber deficit prevails in the Northeastern states and in the Lake states, which will even in the future oblige them to import considerable amounts of forest products in spite of improved forestry at home. It is evident that these regions must be the principal aim for a campaign to build up the future market.

No end to the increase in the need for products of the pulp and paper industries can be seen. We pointed out the fact that the world requirements would increase from 30 to 200 million tons annually, should the greater part of the world population use paper products to the same extent as did the inhabitants of the USA in 1936. As to the USA, the growing rayon industry is particularly to be noted. A future displacing of the cotton fiber does not seem impossible. The factors indicating a decrease in consumption of pulp and paper are clearly outweighed by those to the contrary.

The survey of the future need of imports to the USA showed that imports of more than two million tons of pulp and from two to three million tons of paper products are necessary for the immediate post-war period. The need for imports will rather exceed than be below that of the pre-war years. This is so provided that no serious economic reverse occurs. Taking the exports of products of the forest industries of the USA themselves into consideration, it is evident that one can calculate with such a need of imports during a reasonably near future.

As to meeting this need of imports, Canada has always been the principal contractor. We found that a further extension of Canada's forest industries was possible under certain conditions, but that this development probably will take place at a slow pace due to the difficulties in solving the technical problems of transportation. To what extent the Canadian exports of products of the pulp and paper industry will find a way to the USA will probably depend on future currency conditions and partly on the preferential policy of the British Empire. We have previously come to the conclusion that unfavourable trade balance is not likely to force Canada to export pulp and paper to the USA. Since also the spirit of the Ottawa Conference has been strengthened by the war, our opionion was that the influence of the above factors as well as certain other tendencies, will be so great that no increase of exports to the USA is to be calculated with. A survey of the raw material resources of Sweden showed that this country had at the outbreak of the war attained almost the limit capacity in the expansion of her forest industries. A proportionate increase to the advantage of larger exports of forest products to the USA seems probable only during the first rush. After that the trade is calculated to return to pre-war conditions.

With regard to the post-war rearrangement of the industrial life in the USA the following reasoning seemed natural to us. The productive capacity during the war has been pushed far beyond the requirements of the domestic market. In order to keep up a high standard of living and to avoid unemployment this production must be maintained. The most natural course to attain this end is to increase exports in connection with the granting of credits to less industrialized countries. This increase of exports with an eye to the future will lead to an increase of the trade volume in its entirety. Free trade as a post-war policy should, therefore, find a champion in the USA. A scrutiny of the merchant tonnage situation showed that there will not be any danger of marine transport shortages after the war, so that the loss of Finland's mercantile fleet is principally an economic factor but does not prevent post-war trade.

Furthermore, there would seem to be cause for emphasizing two circumstances: The development in the Southern states of the USA, where during the 1930:ies a strong competitive newsprint industry was expected to develop, has shown that such an industry need not be reckoned with. Further, the exports of products of the pulp and paper industry of the USA itself tend to increase. In view of the enormous area of the American continent and the great transport costs this leads to, this seems in our opinion a natural development.

Since the most important facts that have resulted from our analysis have now been given, it remains to draw the conclusions therefrom. The purpose of our analysis was to form an estimate as to future Finnish-American trade in forest products. The question as to whether the import requirements of the USA in point of forest products are a phenomenon to be counted with also in the future can with full certitude be answered in the affirmative. To what extent Finland will be in a position to take part in supplying these import requirements is a complicated

problem. The Canadian and Swedish competition will remain at about the same point, but one Finnish advantage, that of quality, which was formerly Finland's greatest asset, has disappeared on account of the progress made by technical research in the USA during the war. The tendency of friendliness towards free trade prevalent in the USA indicates the possibility of an extended trade, particularly when the more imperialistically underlined trade policy of England is considered as a counterpoise.

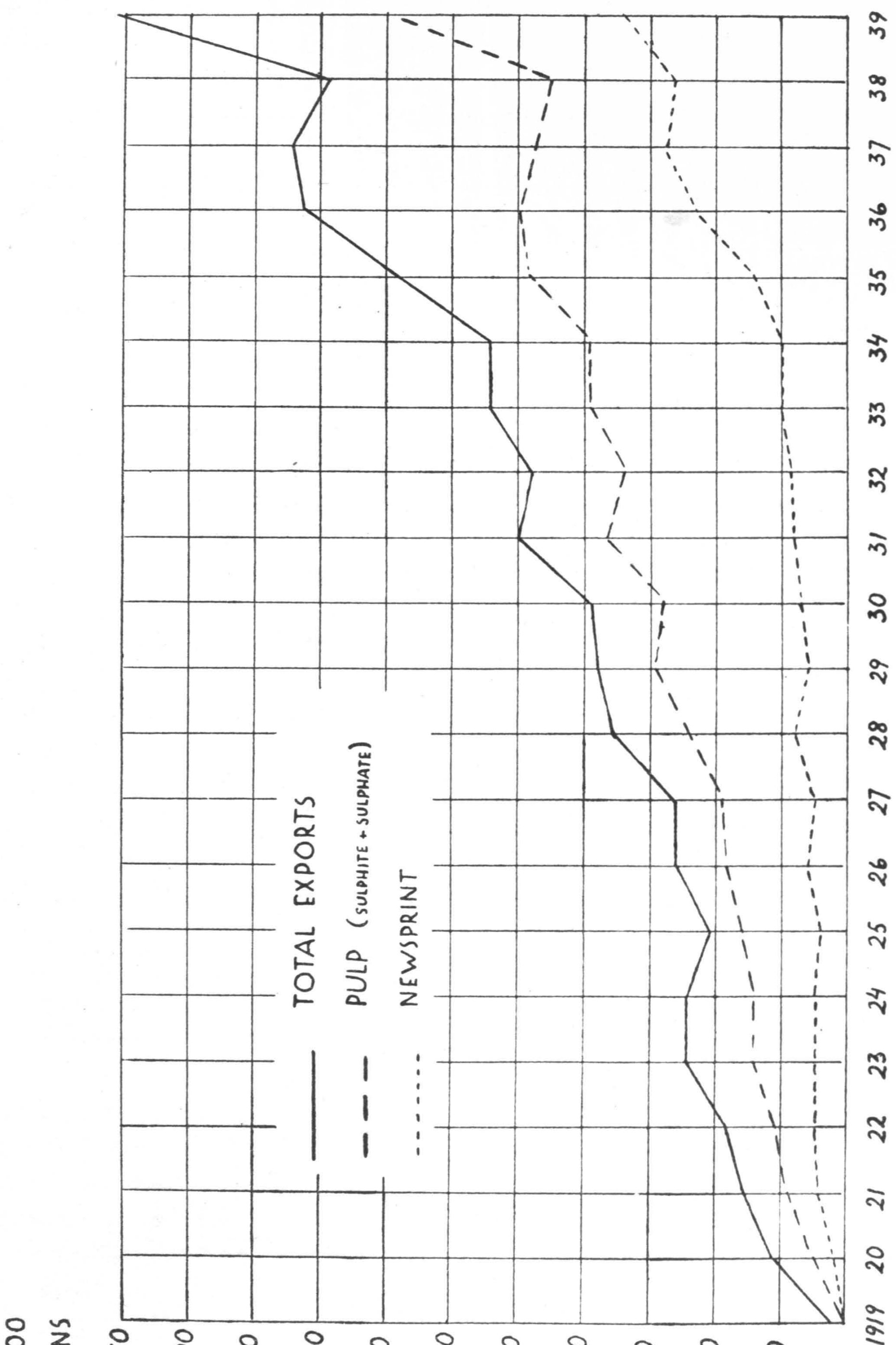


Figure 1. Finland's exports of pulp and paper to the USA during 1919—39.
Suomen hiokkeen, selluloosan ja paperin vienti USA:han vv. 1919—39.

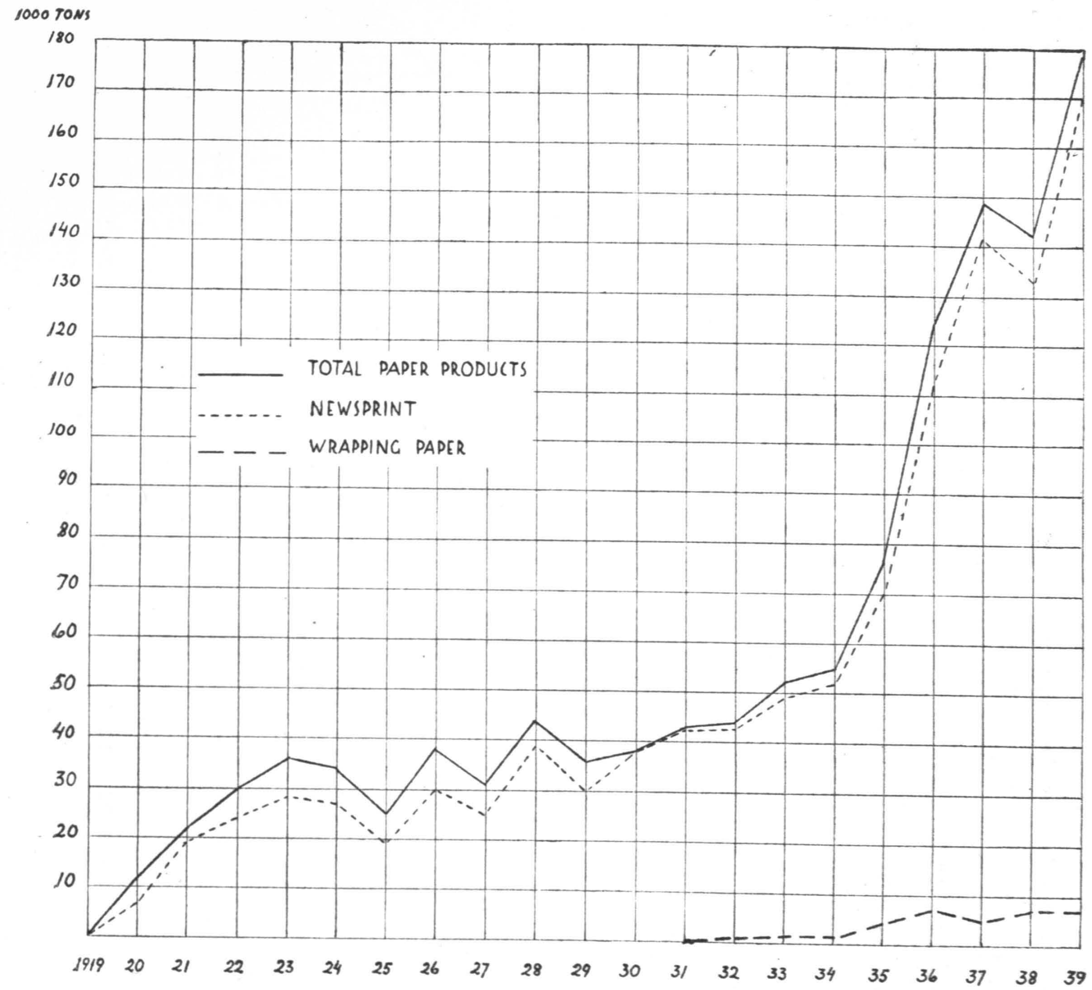


Figure 2. Finland's exports of paper to the USA during 1919—39.
Suomen paperin vienti USA:han vv. 1919—39.

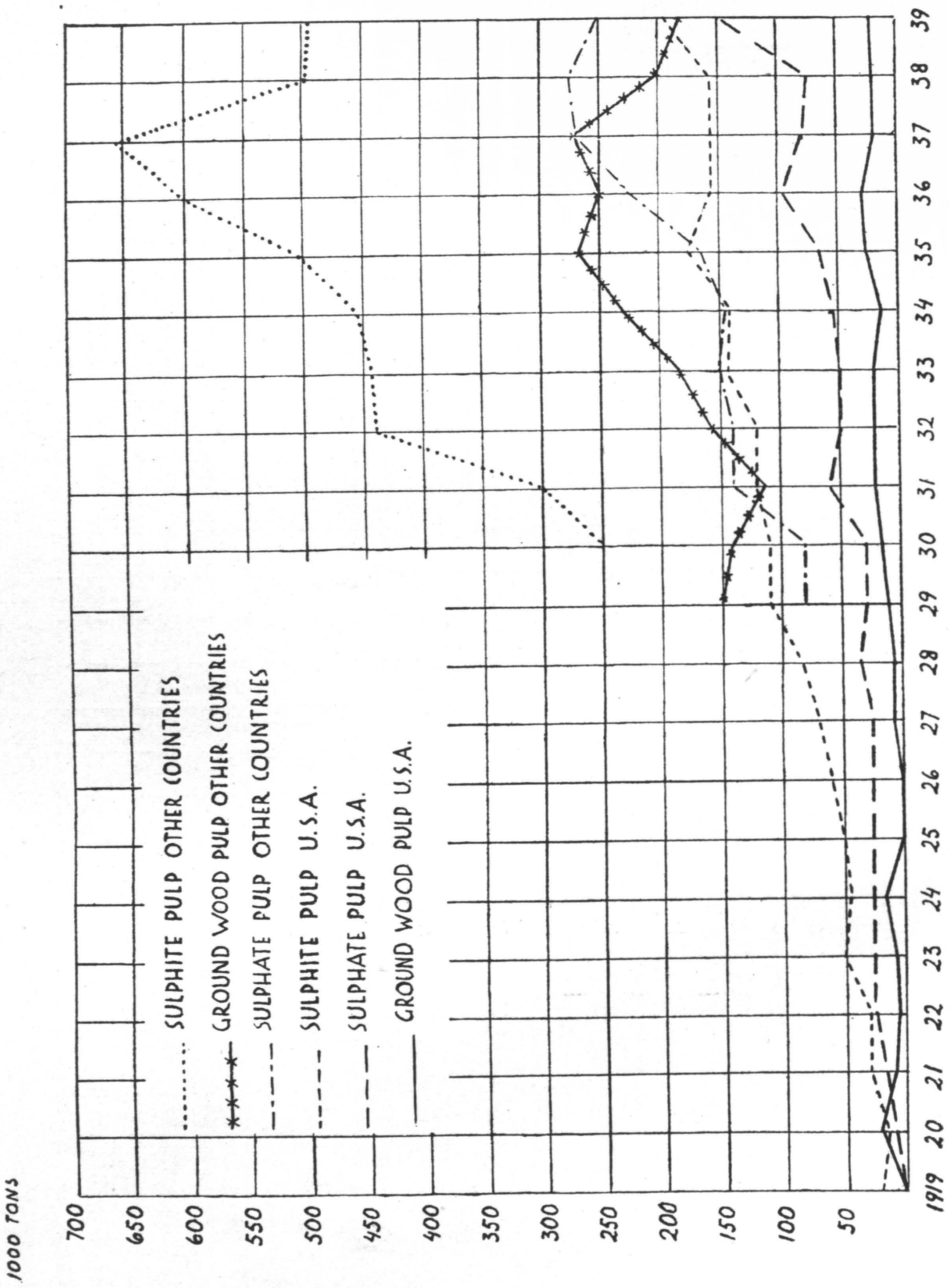


Figure 3. Finland's exports of pulp to the USA and to other countries during 1919—39.
Suomen hiokkeen ja selluloosan vienti USA:han ja muihin maihin vv. 1919—39

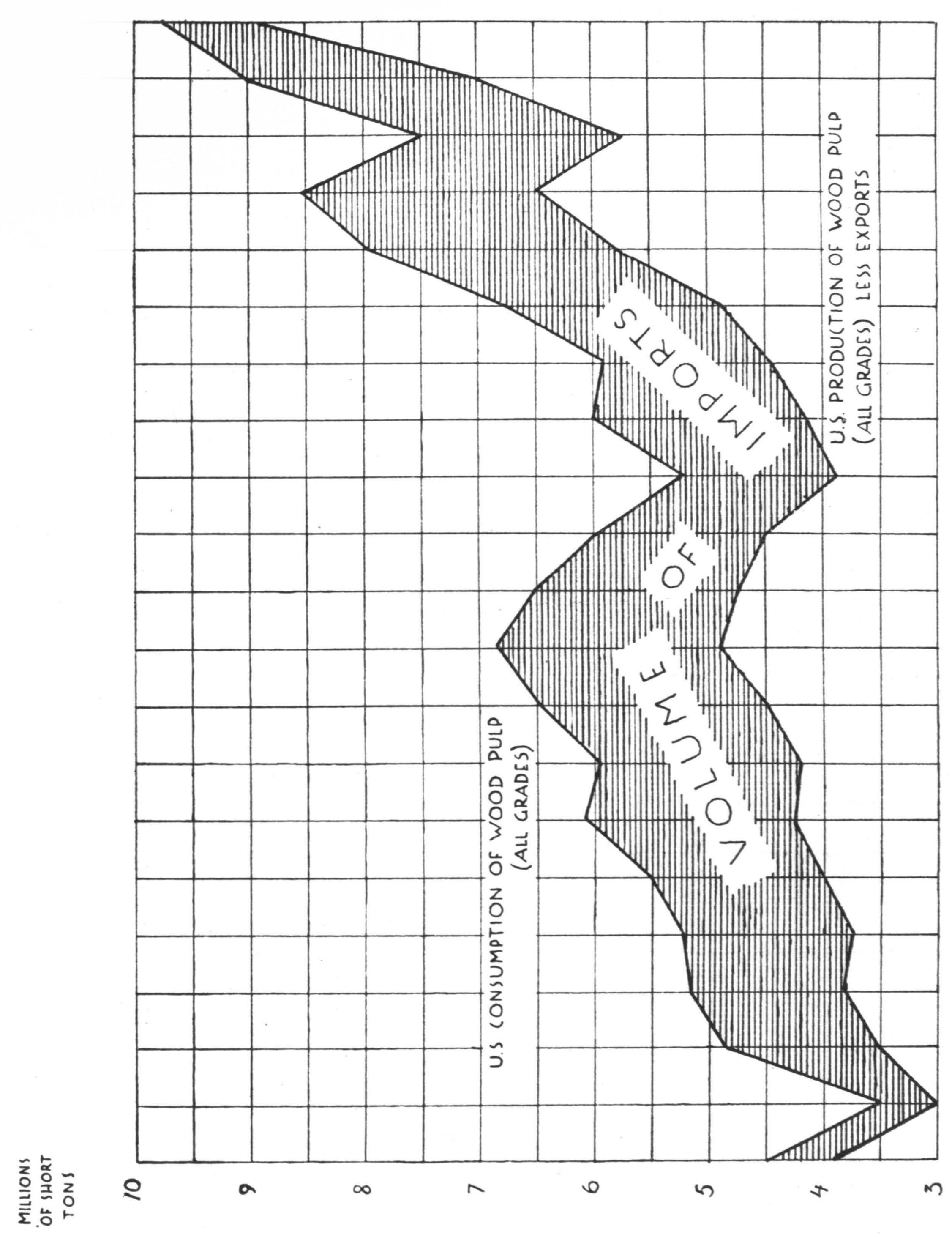


Figure 4 Production and consumption of pulp in the USA during 1920—40.
USA:n hiokkeen ja selluloosan tuotanto ja kulutus vv. 1920—40.

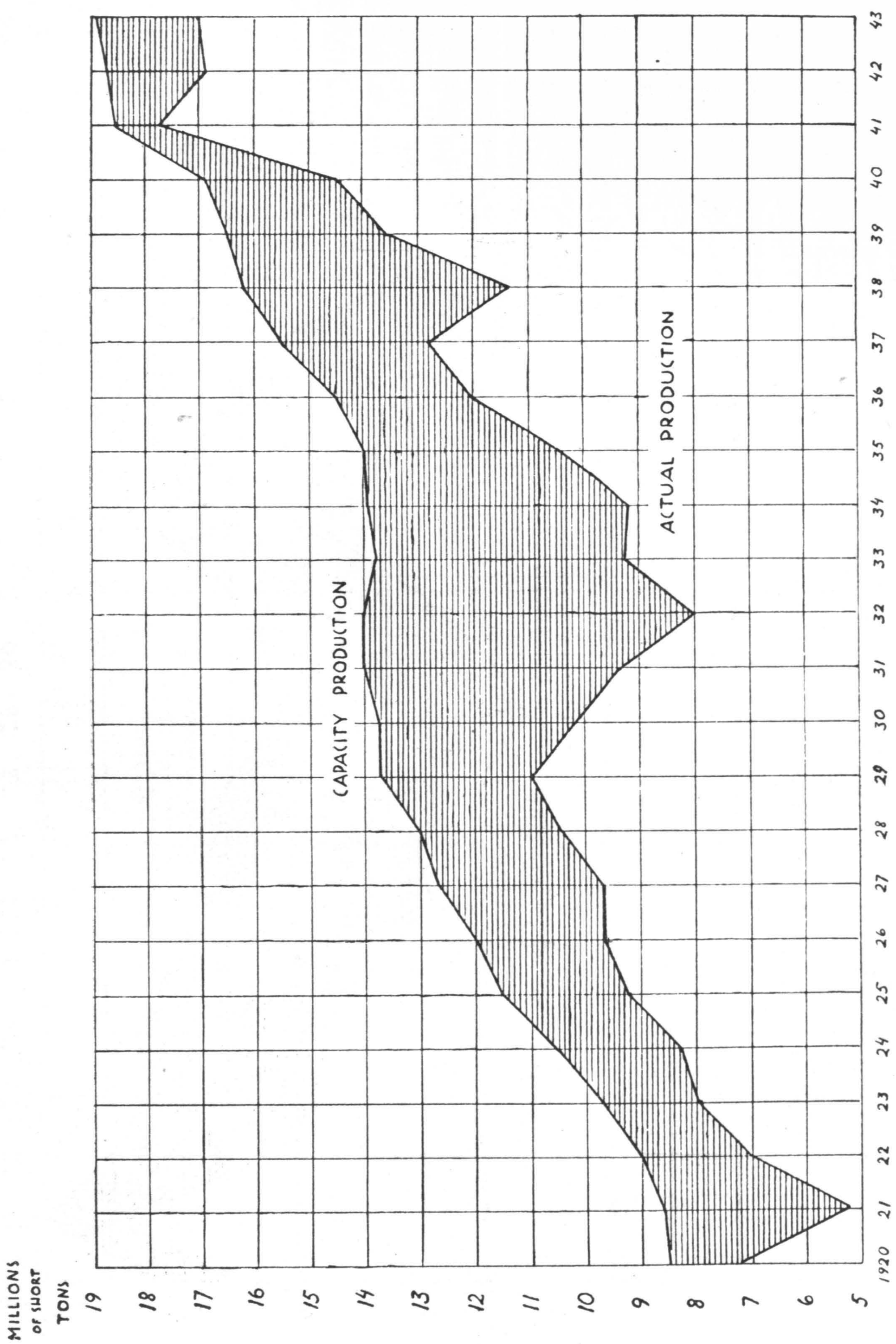


Figure 5. Capacity and actual production of paper mills in the USA during 1920—43.
USA:n paperitehtaitten tuotantokyky ja varsinainen tuotanto vv. 1920—43.

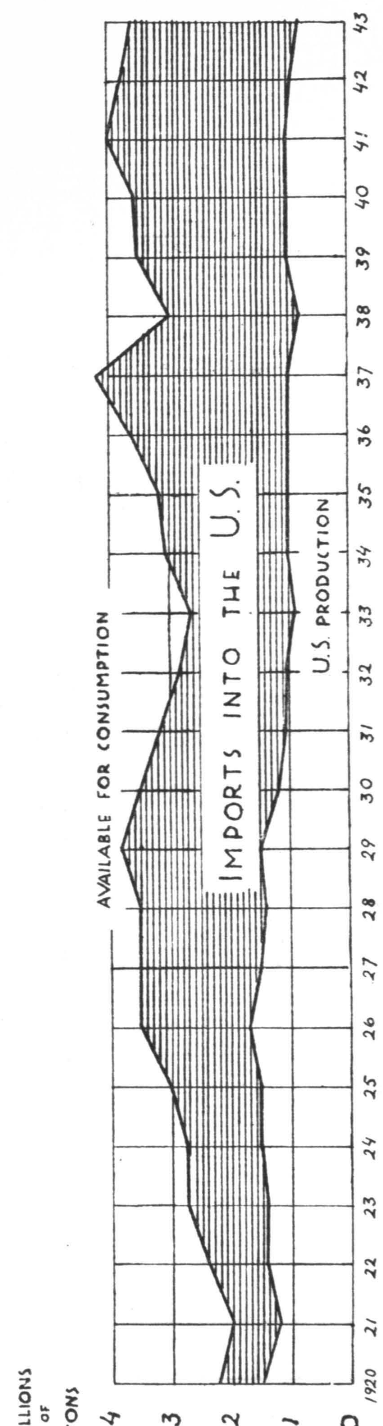


Figure 6. Production and consumption of newsprint in the USA during 1920—43.
USA:n sanomalehtipaperin tuotanto ja kulutus vv. 1920—43.

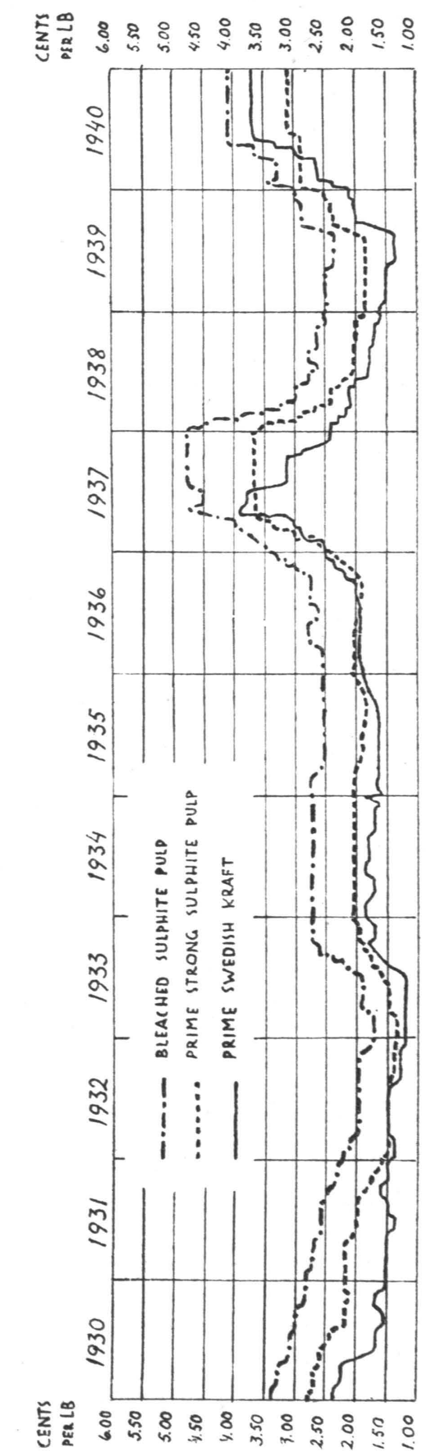


Figure 7. Pulp price movement in the USA during 1930—40.
(cents per pound ex dock Atlantic harbour)
Sellulosan hinnan vaihtelut USA:ssa vv. 1930—40.
(cents/lbs ex dock Atlantin satamissa)

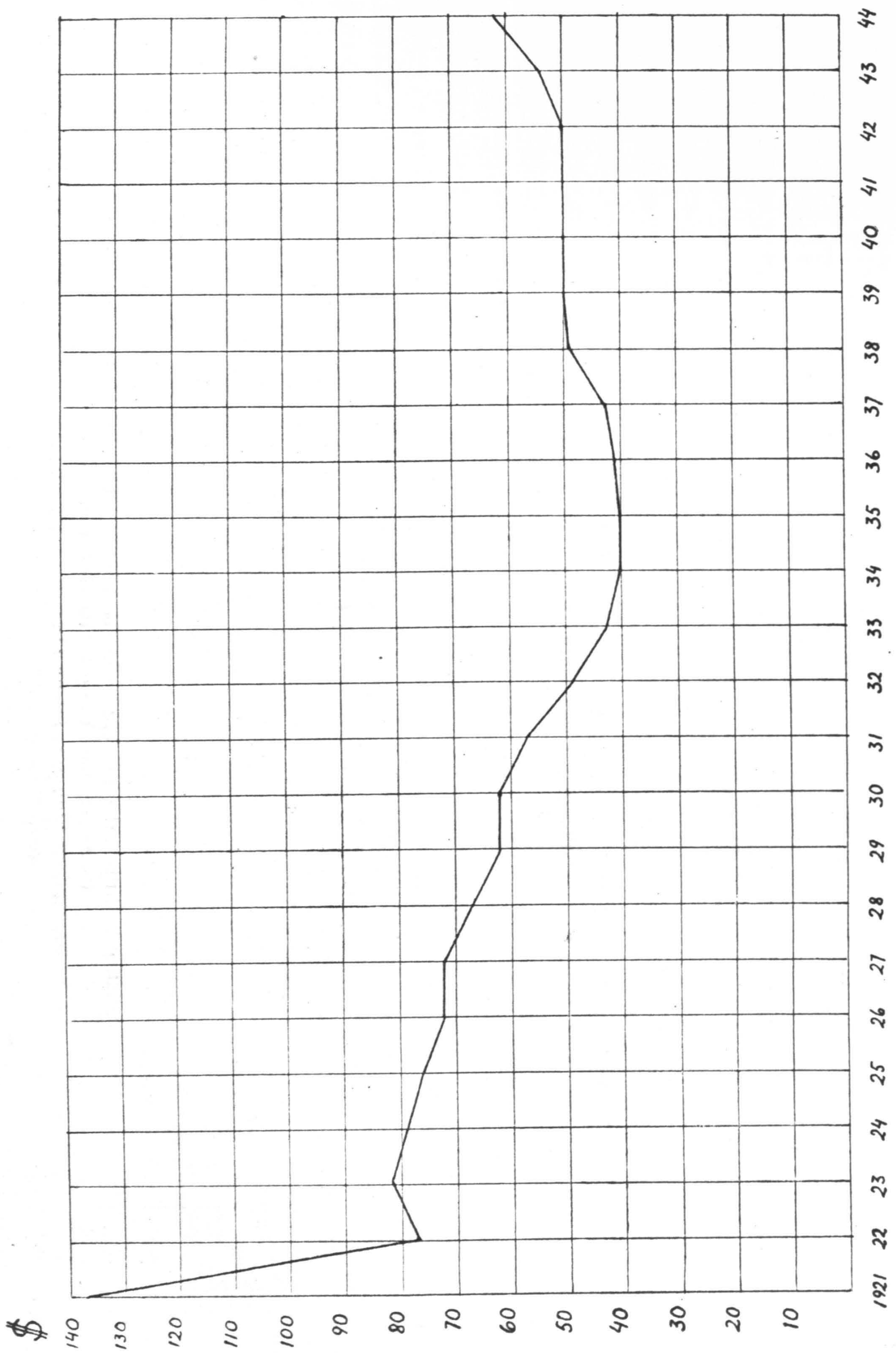


Figure 8. Newsprint price movement in the USA during 1921—44.
(Dollars per 2 000 lbs. fob New York City)
Sanomalehtipaperin hinnan vaihtelut USA:ssa vv. 1921—44.
($/2 000 lbs. fob kohti New Yorkissa)

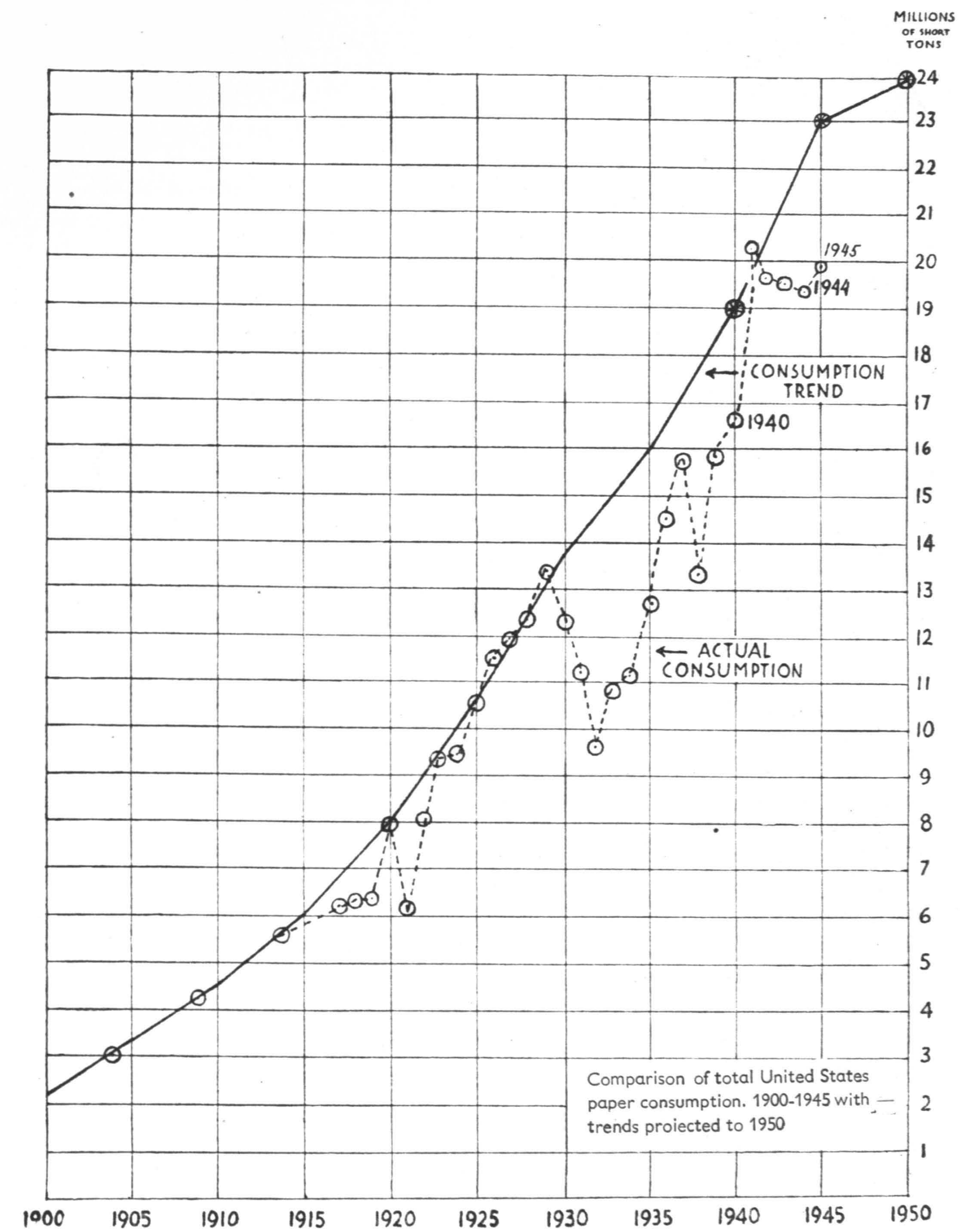


Figure 9. Comparison of total USA paper consumption 1900—45 with trends projected to 1950.
USA:n todellinen paperinkulutus vv. 1900—45 verrattuna arvioituun kulutukseen v:een 1950 saakka.

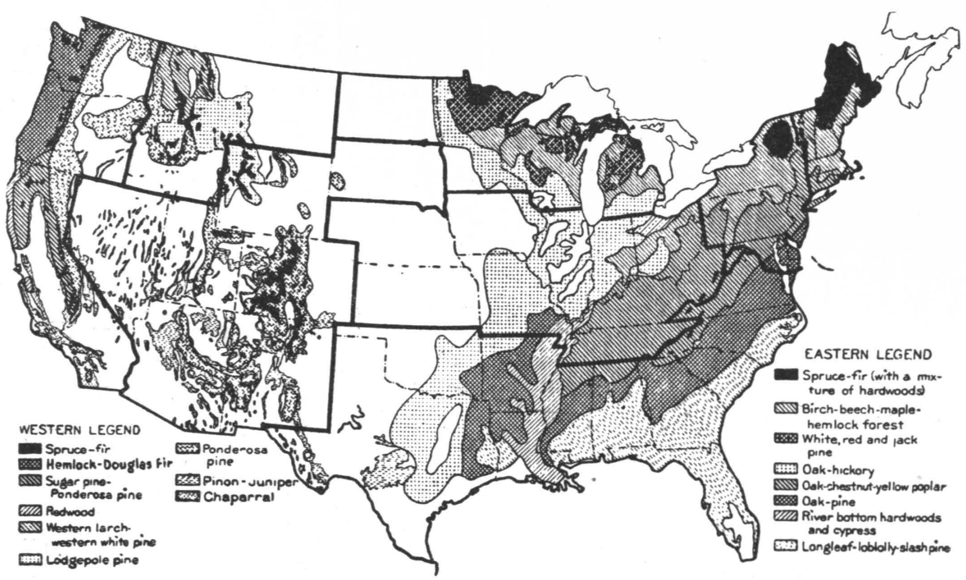


Figure 10. Principal forest types and their locations in the USA.
Tärkeimmät metsämuodot ja niiden kasvualueet USA:ssa.

The sources of the above figures are:
Figure 1—3. Finlands' official foreign trade statistics.
Figure 4—6. U. S. Department of Commerce, Bureau of Census.
Figure 7. Daily Mill Stock Reporter.
Figure 8. Archives of the Finnish Paper Mills' Association.
Figure 9. Archives of APPA.
Figure 10. U. S. Department of Agriculture, Statistical Bulletin.

Bibliography.

Adler, J. Hans. 1944. British and American Shipping Policies: A Problem and a Proposal. Political Science Quarterly No 2. Oberlin College.

Agassiz, Garnault. 1941. The Present and Future Outlook for the Pulp and Paper Industry of Canada. Pulp & Paper Magazine of Canada, p. 585.

Amerika ser optimistiskt på sulfatmarknaden. 1936. The Swedish Wood Pulp Journal, p. 760.

A National Plan for American Forestry. 1933. 73d Congress, Senate Document No 12. Washington.

Anstrin, Hans. 1933. Sulfatmassa och kraftpapper. The Swedish Wood Pulp Journal, p. 550.

Anstrin, H. 1934. Papper och massa i svenskt folkhushåll. Stockholm.

—»— 1945. Norrlandsskogarnas omtaxering fullbordad. Industria, p. 238.

A. S. 1936. Handelsavtalet mellan Finland och Förenta Staterna. The Finnish Paper and Timber Journal, p. 557.

»Ashlander». 1934. The Baltic-the Atlantic-Lake Superior. The Swedish Wood Pulp Journal, p. 732.

Asplund, C. G. 1937. Om den kemiska och mekaniska trämasseexportindustrin i Sverige och dess betydelse i internationellt hänseende. Reprint from Bankårsboken. Stockholm.

Asplund, Gustaf. 1935. Om användandet av papperssäckar i Amerika. The Swedish Wood Pulp Journal, p. 1178.

—»— 1941. Nybyggnader och utvidgningar inom pappersmasseindustrin i USA och Canada efter krigsutbrottet 1939. The Swedish Wood Pulp Journal. Annual Issue, p. 106.

—»— 1942. Kanadas trämasse- och pappersindustri, sedd mot bakgrunden av världsproduktionen av massa. The Swedish Wood Pulp Journal. Annual Issue, p. 104.

—»— 1943. Pappers- och pappersmasseindustrin i USA. The Swedish Wood Pulp Journal. Annual Issue, p. 147.

—»— 1945. Skogsindustriernas råvarubas i Nordamerika och Sverige. The Swedish Wood Pulp Journal. Annual Issue, p. 174.

Baksh, Moula and Nizamuddin, Khaja. 1932. A Report on the Prospects of Paper Manufacture in Hyderabad State. The Nizam's Government Commerce and Industries Dept. Bulletin No 4 (New Series). Hyderabad — Deccan.

Bates, John S. 1941. Canada's Future in Pulp. Paper presented at American Conv. meeting of the technical section of the Canadian Pulp and Paper Association. Montreal.

Berge, Wendell. 1944. Cartels. Challenge to a Free World. Public Affairs Press. Washington D. C.

Betänkande angående råvaruförsörjning, produktion och arbetarantal m.m. vid skogsindustrierna. 1935. Avgivet den 29 juli 1935 av 1933 års skogsindustrisakkunniga. Stockholm.

Beveridge, William H. 1944. Full Employment in a Free Society. London.

Bondsdorff, A. J. 1932. Puunjalostusteollisuuden tuotannosta ja tuotantokustannuksista vuosina 1927—1930. Helsinki.

Boyce, Charles W. 1938. The Future of the American Wood Pulp Industry. The Swedish Wood Pulp Journal, p. 216.

Bracken, John. 1944. A National Forest Policy. Pulp & Paper Magazine of Canada, p. 537.

Browaldh, Tore. 1945. Det amerikanska näringslivet och efterkrigsproblemen. Industriens Utredningsinstitut. Stockholm. In MS.
Brown, Nelson Courtlandt. 1923. The American Lumber Industry. New York.
Buchanan, Norman S. 1944. International Investment: Some Postwar Problems and Issues. The Canadian Journal of Economics and Political Science Vol. 10, p. 139.
Cairncross, A. K. 1935. Did Foreign Investment Pay? Review of Economic Studies Vol. III, p. 67.
Canada 1943. 1943. The Official Handbook of Present Conditions and Recent Progress. Dominion Bureau of Statistics, Department of Trade and Commerce. Ottawa.
Canada Year Book 1940, The. 1940. Dominion Bureau of Statistics, Department of Trade and Commerce. Ottawa.
Carbonnier, H. 1922. Förenta Staternas och Kanadas barrskogar, skogsindustri och export av trävaror trämassa och papper. Uppsala.
Colegrove, Kenneth. i.e. The Role of Congress and Public Opinion in Formulating Foreign Policy. The American Political Science Review No 5, p. 956.
Condliffe, J. B. 1945. Exchange Stabilization. The Committee on International Economic Policy in cooperation with The Carnegie Endowment for International Peace. New York.
Coxe, George R. 1944. Future Export Markets for Pulp and Paper. Pulp & Paper Magazine of Canada, p. 521.
Crosby, W. E. 1944. Developments in Southern U. S. Pacific Pulp & Paper Industry No 9, p. 18.
Curran, C. E. and Behre, C. Edward. 1935. National Pulp and Paper Requirements in Relation to Forest Conservation. 74th Congress, Senate Documente No 115. Washington.
Demmon, E. L. 1941. The Southern Forest and the Pulp and Paper Industry. Southern Pulp and Paper Journal. Third Annual Review Number.
Den Nordamerikanska tidningspappersindustrien. 1930. The Swedish Wood Pulp Journal, p. 1386.
Den svenska cellulosaindustriens utveckling och nationalekonomiska betydelse. 1918. Festskrift utgiven av Svenska Cellulosaföreningen. Stockholm.
Dominion Bureau of Statistics. Canada Department of Trade and Commerce. Census of Industry. Ottawa.
Edwards, Corwin. 1944. Economic and Political Aspects of International Cartels. Washington.
Edwards, Corwin and Opie, Redvers. 1944. International Cartels and Private Trade Agreements. Institute on Postwar Reconstruction. Fourth Series of Conferences. New York University. New York.
En tidningsdiskussion om cellulosaindustriens läge. 1930. The Swedish Wood Pulp Journal, p. 1306.
E. S. 1938. Kanadan sulfiittiteollisuuden laajentaminen. The Finnish Paper and Timber Journal, p. 265.
E. S. 1941. Interamerikansk handel i papper, cellulosa och kartong. The Finnish Paper and Timber Journal, p. 271.
E. V. 1934. Paperia riisinvarsista ja bamburuo'osta. The Finnish Paper and Timber Journal, p. 958.
Fine, Sherwood M. 1944. Public Spending and Postwar Economic Policy. New York.
Finland-United States 1938. 1938. Special Publication for the Advancement of Finnish-American realitions. Talouselämä & Suomen Ulkomaankauppa No 21 B. Helsinki.
Fogelholm, K.-G. 1937. Om träförädlingsindustriens strukturella utveckling i de nordiska länderna. (Structural Development of Woodworking Industries in North European Countries.) The Finnish Paper and Timber Journal. Special Issue, p. 296.
—»— 1939. Suomen Ulkomaankauppa 1918—1938. Sen jakaantuminen eri maiden kesken. Talouselämä, p. 426.

Forest Resources of the Pacific Northwest. 1938. A Report by the Pacific Northwest Regional Planning Commission. Washington D.C.
Forestry Situation in United States. 1941. Statement prepared by Paper and Pulp Industry for 75th Congress. Washington.
Förenta Staternas pappers- och massaindustri 1930. 1931. The Swedish Wood Pulp Journal, p. 50.
Försäljningen av finskt faner till U.S.A. 1936. The Finnish Paper and Timber Journal, p. 920.
Gilbert, Milton and Bangs, R. B. 1942. Preliminary Estimates of Gross National Product, 1929—41. Survey of Currrent Business. Washington.
Gray, A. Wells. 1943. Our Forest in War and Peace. Pulp & Paper Magazine of Canada, p. 380.
Greene, Katrine R. C. and Phillips, Joseph D. 1942. Economic Survey of the Pacific Area. Part II. Transportation and Foreign Trade. New York.
Grottian, Walter. 1938. Holz Holzverbrauch und Holzerzeugung der Welt in der Nachkriegszeit. Wandlungen in der Weltwirtschaft Heft 14. Leipzig.
Guthrie, John A. 1941. The Newsprint Paper Industry. Cambridge, Massachusetts.
Haberler, Gottfried. 1933. Der Internationale Handel. Enzyklopädie der Rechts- und Staatswissenschaft. Berlin.
[Hall, Gösta.] 1944. Avsättningsmöjligheterna för svensk massa. The Swedish Wood Pulp Journal, p. 442.
Hall, Gösta. 1945. Den amerikanska efterkrigsmarknaden för svenska skogsprodukter. Teknisk Tidskrift, p. 44.
Halse, O. 1944. Sammandrag av en undersökning av den amerikanska massamarknaden. Stockholm. In MS.
Handelsöverenskommelser mellan Sverige och Amerikas Förenta Stater. 1936. Sveriges överenskommelser med främmande makter 1935 No 18. Stockholm.
Hansen, Alvin H. 1945. America's Role in the World Economy. New York.
Harris, Seymor E. 1943. Postwar Economic Problems. New York.
Helander, Sven. 1925. Die schwedische Holz- Holzmasse- und Papierindustri. Lübeck.
Hernod, Torsten. 1942. Något om cellulosaindustriens utveckling. Studier i svenskt näringsliv tillägnade Jacob Wallenberg, p. 127. Stockholm.
Herring, Harriet L. 1940. Southern Industry and Regional Development. Durham, North Carolina.
Hoppu, K. W. 1930. Kotimaisten valtamerentakaisten linjain merkitys. Suomen Ulkomaankauppa, p. 134.
Hornborg, H. 1943. Finska Pappersbruksföreningen 1918—1943. 25-årsskrift. Helsingfors.
Hyer, Allan. 1944. WPB and the Paper Industry. The Paper Trade Journal No 22, p. 60.
Hylin, O. 1930. Det ekonomiska läget i U.S.A. och vår cellulosaexport. The Finnish Paper and Timber Journal, p. 68.
Höglund, Bo. 1945. Intryck från Amerikas kemiska industri under kriget. Teknisk Tidskrift, p. 41.
Ilvessalo, Lauri — Jalava, Matti. 1930. Maapallon metsävarat. (Forest Resources of the World). Publications of the Forest Research Institute in Finland No 16. Helsinki.
Ilvessalo, Yrjö. 1931. Pohjoismaiden metsävarat toisiinsa verrattuina. Publications of the Forest Resarch Institute in Finland No 14. Helsinki.
—»— 1942. Suomen metsävarat ja metsien tila. (The Forest Resources and the Condition of the Forests of Finland). Publications of the Forest Resarch Institute in Finland No 30. Helsinki.
Jansson, Hannes and Kulvik, Gunnar. 1945. Havaintoja Amerikan selluloosateollisuudesta. Walter Ahlströmin Säätiön Julkaisu No 1. Warkaus.
[Jansson, Per.] 1930. Den finska fanerindustriens avsättningsmöjligheter i U.S.A. The Finnish Paper and Timber Journal, p. 486.

Jauri, Eino. 1934. Vienti- ja laivauskäsikirja. Julkaisija Suomen Vientiyhdistys. Helsinki.
Johnson, Axel Ax:son. 1942. Hur svensk transocean linjesjöfart vuxit fram. Ett kapitel ur svensk linjesjöfarts historia. Studier i svenskt näringsliv tillägnade Jacob Wallenberg, p. 167. Stockholm.
Jonson, Tor. 1937. Våra skogsindustriers råvaruförsörjning. Finanstidningen, p. 403.
Järvinen, Kyösti. 1940. Kauppaopin ja kauppaoikeuden alkeet. Helsinki.
Järvinen, Kyösti. 1943. Vientiorganisation kehitys Suomessa. Helsinki.
Kahma, Jaakko. 1933. Omavaraisuuspyrkimykset ja vientimme laajentaminen. Helsinki.
—»— 1935. Kansallinen vientipolitiikka. Helsinki.
Kellogg, R. S. 1935. Proposed Reciprocal Trade Agreement with Finland. New York. In MS.
Kennedy, Howard. 1944. Post-War Forestry Problems. Pulp & Paper Magazine of Canada, p. 753.
Kizer, Benjamin H. 1943. The U.S.-Canadian Northwest. Princeton, New Jersey.
Knox, F. A. 1944. Some Aspects of Canada's Post-War Export Problem. The Canadian Journal of Economics and Political Science Vol. 10, p. 312.
Koroleff, A. 1944. Our Future Wood Supply. Pulp & Paper Magazine of Canada, p. 225.
Kovero, Ilm. 1945. »Mestgynnandet» och världshandeln. Industria, p. 66.
Lachmann, Kurt. 1944. The Shipping Problem at the End of the War. Social Research. Photostat copy.
Langdon, J. 1944. Is Southern Pine a Threat. Montreal.
Lary, Hal B. 1945. Foreign-Trade Problems of the United States. Foreign Commerce Weekly No 2, p. 3.
Levón, Martti. 1925. Sahateollisuutemme kilpailukyvyn parantaminen. Reprint from Teknillinen Aikakauslehti No 2.
—»— 1936. Maailman puun tarve ja Suomen osuus sen tyydyttämisessä. Suomen Puu, p. 114.
Lindberg, Martti Kovero. 1946. Träförädlingsindustrins betydelse i Finland under senaste tider. Helsingfors. In MS.
Lingard, Cecil C. 1944. Canada's Stake in the War and the Peace. Winnipeg. Photostat copy.
Lippmann, Walter. 1943. U.S. Foreign Policy: Shield of the Republic. New York.
Livingston, S. Morris. 1943. Markets after the War. 78th Congress, Senate Document No 40. Department of Commerce. Washington.
Lorwin, Lewis L. 1943. Postwar Plans of the United Nations. New York.
Lundell, Oscar. 1930. Finlands export efter kriget. Helsingfors.
Lundgren, Thorsten. 1932. The World's Staples. XIV Wood Pulp. Index Vol. VII, No 79. Stockholm.
Maailman kauppa v. 1931. 1932. Suomen Ulkomaankauppa, p. 76.
Malm, A. 1928. Suomen Selluloosayhdistys 1918—28. Helsinki.
Market Review of the American Association of Wood Pulp Importers Inc. 1943. New York.
Mattoon, Wilbur R. 1936. Forest Trees and Forest Regions of the United States. U.S. Department of Agriculture. Washington.
McCoy, H. B. 1945. Government Aids to Foreign Trade. Foreign Commerce Weekly No 7, p. 3.
McCracken, P. W. 1943. A Hypothetical Projection of Expenditures for Commodity Groups Based on Past Relationships to Gross National Product. U.S. Department of Commerce. Washington.
Murto, J. O. 1942. U.S.A:n Etelävaltioiden kartonki- ja voimapaperiteollisuus. The Finnish Paper and Timber Journal, p. 127.
Myrdahl, Gunnar. 1944. Varning för fredsoptimism. Stockholm.
National Resources Planning Board. 1943. A Post-War Plan and Program for the United States of America. Washington D.C.

Neubrech, W. LeRoy. 1938. American Hardwoods and their Uses. U.S. Department of Commerce. Trade Promotion Series No 178. Washington.
—»— 1943. Future Outlook in Pulp-Paper Trade in U.S.A. U.S. Department of Commerce. Washington.
Ohlin, Bertil. 1931. Den världsekonomiska depressionen. Stockholm.
—»— 1934. Utrikeshandel och handelspolitik. Stockholm.
—»— 1937. Can we Maintain Prosperity? World Trade No 11, p. 3.
Ohlin, Bertil. 1942. Ekonomiska efterkrigsproblem. Studier i svenskt näringsliv tillägnade Jacob Wallenberg, p. 275. Stockholm.
—»— 1945 a. Några handelspolitiska frågeställningar för efterkrigstiden. Svensk utrikeshandel No 1, p. 13.
—»— 1945 b. Konjunkturstöd genom löneförhöjningar i USA. Stockholmstidningen, October 13th.
Olin, C-E. 1933. Trävaruproduktion och trävaruhandel. Finlands sågverksprodukter i den internationella konkurrensen. Academic treatise. Åbo.
Pappersexporten på de transmarina marknaderna. 1935. The Swedish Wood Pulp Journal, p. 199.
Postwar Policies for the United States' Wood Pulp Industry. 1944. United States' Pulp Producers' Association. New York.
Postwar Possibilities of the Paper Industry. 1944. Technical Association of the Pulp and Paper Industry, June 21st. Photostat copy.
Prisläget i Sverige och Amerika. 1945. The Swedish Wood Pulp Journal, p. 44.
[Procopé, Hj. J.] 1932. Marknadsläget och den allmänna ekonomiska situationen i U.S.A. The Finnish Paper and Timber Journal, p. 451.
Procopé, Hj. J. 1935. Kansainvälisen ja pohjoismaisen kauppapolitiikan suuntaviivoja. Porvoo.
—»— 1938. Suosituimmuuslauseke nykypäivien kauppapolitiikassa. Kansantaloudellinen Aikakauskirja, p. 109.
Pulp and Paper Industry Report. 1944. April. Pulp and Paper Series, Part 1. U.S. Department of Commerce. Washington.
—»— 1944. May. Pulp and Paper Series, Part 1. U.S. Department of Commerce. Washington.
Raitt, W. 1939. The World's Cellulose Resources. The Worlds Paper Trade Review, p. 986 and 1060.
Ramsay, Henrik. 1933. Ajankohtaisia kauppasopimuspoliittisia pyrkimyksiä. Unitas 1933—1934, p. 31.
Review of World Trade 1938—1939. League of Nations. Geneva.
Rooseveltin uudet kasvot. 1939. Talouselämä, p. 220.
Roosevelts industrikontroll. 1933. The Swedish Wood Pulp Journal, p. 650.
Runeberg, L. 1938. Finlands pappersexport efter världskriget. Helsingfors. In MS.
Saari, Eino. 1934. Piirteitä Yhdysvaltain metsätalouspolitiikasta. Reprinted from Acta Forestalia Fennica 40. Helsinki.
—»— 1935. Exports of Finnish Forest Products in Relation to the Forest Resources. Bank of Finland monthly bulletin No 6. Helsinki.
—»— 1936. The Sawmill Industry in Scandinavia and Finland and the Exports of Sawn Softwood from these Countries. London & Cambridge economic service. Special memorandum No 42. London.
—»— 1937. Valtakuntien metsätaseiden ja liikahakkauksen käsitteistä. Helsinki.
—»— 1942. Suomen metsävarat ja niiden käyttö. Kansantaloudellinen Aikakauskirja, p. 59.
Schmidt, Emerson P. 1943. Is Post-War Collapse Inevitable? Committee on Economic Policy. Post-War Readjustments Bulletin No 2. Washington D.C. Photostat copy.
Schumacher, Arnold C. 1943. Hypothetical Projections of Paper Production by Classes and Wood Pulp Production and Imports. U.S. Department of Commerce. Washington.

Sharp, Walter R. 1944. American Foreign Relations within an Organized World Framework. The American Political Science Review, p. 931.
Sibley, C. L. 1933. Canada's Paper Industry has Stormy Year. The Paper Trade Journal No 7, p. 33.
Sjöfartspoolen utsättes för stark press från många håll. 1945. Mercator, p. 324.
Smedslund, Kurt. 1939. The World's Paper Trade in 1937. Statistical tables. Helsingfors.
Solitander, Axel. 1925. Yhdysvaltain sahatavarakauppa. Helsinki.
—»— 1943. Opinioner kring träförädlingen. Helsingfors.
Soule, George, Efron, David and Ness, Norman T. 1945. Latin America in the Future World. New York.
Sourander, Ingwald and Solitander, Erik. 1943. Finska Träsliperiföreningen 1892—1942. Helsingfors.
Spachner, J. V. 1943. Mill Consumption of Waste Paper in 1943. Paper presented at American Conv. meeting of the technical section of the Canadian Pulp and Paper Association. Montreal.
Statistiques du commerce international. 1938. Génève.
Statistiska Centralbyrån .1940. Undersökning angående skogsavverkningen år 1937. Statistiska meddelanden. Serie A, band V:6. Stockholm.
Stenström, J. 1935. Perforering av trämassa vid export. Svensk Export, p. 131.
Sternberg, Fritz. 1944. The United States in the Future World Economy. Social Research. New York. Photostat copy.
Stiernstedt, W. G. 1945. Internationella handelskonferensen i Rye 10—18 november 1944. Rapport till Internationella Handelskammarens Svenska Nationalkommitté. Meddelanden från Stockholms Handelskammare 1945. Häfte 1—2, p. 37.
[Stiernstedt, W. G.] 1945. Några intryck från en Amerikaresa. Meddelanden från Stockholms Handelskammare 1945. Häfte 1—2, p. 30.
[Stjernschantz, W.] 1931. Suomalaisen paperiteollisuusmiehen vaikutelmia U.S.A:sta. Suomen Ulkomaankauppa, p. 230.
Streyffert, Thorsten. 1931. Världens barrskogstillgångar. Stockholm.
—»— 1933. Rysslands naturtillgångar under femårsplanen. Stockholm.
—»— 1936. Nordamerikas skogstillgångar och massaindustri. Svenska Skogsvårdsföreningens tidskrift, häfte 1.
—»— 1945. Synpunkter på Norrlandsfrågan. Svenska Dagbladets Norrlandsnummer, June 15th.
Studley, James D. 1938. United States' Pulp and Paper Industry. U.S. Department of Commerce. Trade Promotion Series No 182. Washington.
Suomen Selluloosayhdistys. 1931. Unitas, p. 18.
Swanson, O. F. 1935. Year in Many Respects is Most Encouraging in Wood Pulp Industry Since 1929. The Paper Trade Journal No 8, p. 33.
—»— 1936. Pulp Industry Makes Substantial Recovery from 1932 Low Point of Depression. The Paper Trade Journal No 8, p. 26.
—»— 1937. Production and Distribution of Wood Pulp Greatest in History of Industry. The Paper Trade Journal No 8, p. 46.
—»— 1938. Wood Pulp Industry Makes Notable Progress as Production and Distribution Soar. The Paper Trade Journal No 8, p. 48.
—»— 1939. High Prices in Past Contributed to Make Wood Pulp Market Unstable Last Year. The Paper Trade Journal No 8, p. 43.
—»— 1940. Active Demand Creates Strong Pulp Market with 19 Per Cent Price Rise in 1939. The Paper Trade Journal No 8, p. 42.
—»— 1943. Wood Pulp Experiences Year of Steady Demand under Government Control. The Paper Trade Journal No 7, p. 58.

Taloudellinen katsaus. 1932. Suomen Ulkomaankauppa, p. 17.
Tariff Act of 1930. 1930. 71st Congress, Senate Document No 166. Washington.
The Commercial outlook. 1937. The Paper Industry No 10, p. 867.
[Thordén, Gustaf B.] 1930. Rahtilinja U.S.A:han olisi kannattava yritys. Suomen Ulkomaankauppa, p. 497.
Throckmorton, E. A. 1944. Folding and Set Up Boxes after the War. Pulp & Paper Magazine of Canada, p. 807.
Tommila, Olavi. 1945. Finlands ekonomi och framtiden. Världspolitikens dagsfrågor 1944 No 8. Stockholm.
Tullfrågan i U.S.A. 1933. The Swedish Wood Pulp Journal, p. 296.
Tullirauha Suomen kannalta. 1930. Suomen Ulkomaankauppa, p. 55.
Tullkraven i U.S.A. 1933. The Swedish Wood Pulp Journal, p. 88 and 138.
Ulkomaankauppamme suuntautuminen. 1938. Talouselämä, p. 1212.
United Nations Monetary and Financial Conference Bretton Woods N. H. July 1 to 22 1944. International Monetary Fund and International Bank for Reconstruction and Development. Washington D.C.
U.S.A. på väg till självförsörjning. 1941. The Swedish Wood Pulp Journal, p. 174.
U. S. Department of Agriculture. Statistical Bulletin. Washington.
U.S. Department of Commerce. 1937. American Douglas Fir Plywood and its Uses. Trade Promotion Series No 167. Washington.
—»— 1940 and 1944. Statistical Abstract of the United States. Bureau of the Census. Washington.
—»— 1945. The World's Paper and Wood Pulp Industry Before and After V-E Day. Industrial Series No 14. Washington.
—»— Bureau of Census. Washington.
—»— Forest Service Statistics. Washington.
U. S. Forest Service. 1920. Report on Senate Resolution 311. Washington.
U.S. News Print Service Bureau. New York.
U.S. Tariff Commission. 1938. Report to the United States' Senate on Wood Pulp and Pulpwood. No 126. Washington.
Viennissä jatkuvaa tervettä laajenemista. 1938. Talouselämä, p. 45.
Voionmaa, Tapio. 1939. Kauppapolitiikan uudet suunnat. Talouselämä, p. 218.
Voionmaa, Väinö. 1938. The First Finnish Pioneers in America. Talouselämä & Suomen Ulkomaankauppa No 21 B, p. 57.
Vuorinen, John H. 1938. The Finns in the Delaware River Valley. Talouselämä & Suomen Ulkomaankauppa No 21 B, p. 61.
Wallace, Henry A. 1945. Exports in Excess of $ 10 000 000 000 Seen. Foreign Commerce Weekly No 8, p. 3.
Wegelius, Th. 1939. Några synpunkter vid jämförelse av pappersvedpriser i Finland och Sverige. Paper presented at the meeting of Ekonomiska Samfundet April 25th. Helsingfors.
Whidden, Howard P. Jr. 1945. Preferences and Discriminations in International Trade. The Committee on International Economic Policy in Cooperation with The Carnegie Endowment for International Peace. New York.
[Wickström, Roy J.] 1937. Hinta ja laatu, ratkaisevat tavaroita Yhdysvaltoihin myytäessä. Suomen Ulkomaankauppa, p. 366.
Williams, John H. 1944. Currency Stabilization: American and British Attitudes. Foreign Affairs. Photostat copy.
Wood Pulp Statistics. 1944. United States' Pulp Producers Association. New York.
World Trade. 1944. International Chamber of Commerce. Report to the British National Committee. London.
Yhdysvaltain uusi verolaki. 1932. Suomen Ulkomaankauppa, p. 234.

Young, John Parke. 1938. International Trade and Finance. New York.
Yugow, A. 1942. Russia's Economic Front for War and Peace. New York.
Zon, R. and Sparhawk, W. N. 1923. Forest Resources of the World. New York.
Ölander, Ragnar. 1945. Finland och Ryssland. Skrifter utgivna av Nyliberala Studentförbundet No 3. Lovisa.

Newspapers, Trade Journals and others.

American Political Science Review, The. Published bimonthly by the American Political Science Association. Menaska, Wisconsin.
Berättelse över Finska Cellulosaföreningens verksamhet. Published yearly by The Finnish Cellulose Association. Helsingfors.
Berättelse över Finska Träsliperiföreningens verksamhet. Published yearly by the Finnish Wood-Pulp and Board Union. Helsingfors.
Canadian Journal of Economics and Political Science, The. Montreal.
Daily Mill Stock Reporter. New York.
Die Industriewirtschaft. Vierteljahrshefte zur Konjunkturforschung. Berlin.
Evening Star, The. Washington D.C.
Financial Post. Toronto.
Finnish Paper and Timber Journal, The. Published bimonthly by the Central Association of Finnish Woodworking Industries. Helsingfors.
Finska Pappersbruksföreningen Årsberättelser. Published yearly by The Finnish Paper Mills' Association. Helsingfors.
Finska Träförädlingsindustriernas Centralförbund, Årsberättelser. Published yearly by The Central Association of Finnish Woodworking Industries. Helsingfors. In MS.
Foreign Commerce Weekly. Published weekly by the U.S. Department of Commerce, Bureau of Foreign and Domestic Commerce. Washington.
Helsingin Sanomat. Helsinki.
Hufvudstadsbladet. Helsingfors.
Industria. Published 14—16 times yearly by Svenska Arbetsgivareföreningen. Stockholm.
Kansantaloudellinen Aikakauskirja. Published by Kansantaloudellinen Yhdistys. Helsinki.
Meddelanden från Stockholms Handelskammare. Published monthly by Stockholms Handelskammare. Stockholm.
Mercator. Published weekly in Helsingfors.
New York Times, The. New York.
Pacific Pulp and Paper Industry. Published monthly by Consolidated Publishing Co. Seattle, Washington.
Paper Industry, The. Published monthly at 333 N. Michigan Ave. Chicago, Illinois.
Paper Trade Journal, The. Published weekly by Lockwood Trade Journal Co. Inc. New York.
Political Science Quarterly. Published quarterly by Academy of Political Sciences. Columbia University. New York.
Pulp & Paper Magazine of Canada. Published monthly by National Business Publications Ltd. Gardenvale, Quebec.
Review of Economic Studies. Published by Board of Editors, London School of Economics. London.
Southern Pulp and Paper Journal. Published monthly by Ernest H. Abernothy Publishing Company Inc. Atlanta, Georgia.
Stockholms Tidningen. Stockholm.
Suomen Puu. Published by Suomen Sahateollisuusmiesten Yhdistys and Suomen Puuasiamies Yhdistys. Helsinki.

Suomen Ulkomaankauppa. See Talouselämä.
Svensk Export. See Svensk Utrikeshandel.
Svensk Utrikeshandel. Published by Sveriges Allmänna Exportförening. Stockholm.
Svenska Dagbladet. Stockholm.
Svenska Skogsvårdsföreningens tidskrift. Stockholm.
Swedish Wood Pulp Journal, The. Published bimonthly in Stockholm.
Talouselämä. Published weekly by the Finnish Foreign Trade Association. Helsinki.
Teknillinen Aikakauslehti. Published monthly by Suomalaisten Teknikkojen Seura. Helsinki.
Teknisk Tidskrift. Published weekly by Svenska Teknologföreningen. Stockholm.
Unitas. Published by Oy Pohjoismaiden Yhdyspankki. Helsinki.
Utrikeshandel I A. Årspublikation. Finland's official annual statistical publication. Helsingfors.
World Trade. Published by the League of Nations. Geneva.
Worlds' Paper Trade Review, The. Published weekly by Stonhill & Gillis Ltd. London.

Archives of

The American Paper and Pulp Association, New York.
The Central Association of Finnish Woodworking Industries, Helsingfors.
The Finnish Cellulose Association, Helsingfors.
The Finnish Foreign Office, Trade Political Section, Helsingfors.
The Finnish Paper Mill's Association, Helsingfors.
The Finnish Woodpulp and Board Union, Helsingfors.
The Swedish Cellulose Association, Stockholm.
The Swedish Paper Mill's Association, Stockholm.

Abreviations.

APPA = American Paper and Pulp Association.
FPJ = The Finnish Paper and Timber Journal.
NIRA = National Industrial Recovery Act.
PTJ = The Paper Trade Journal.
SPJ = The Swedish Wood Pulp Journal.
SPS = Sulphite Pulp Suppliers.
SU = Suomen Ulkomaankauppa.
WPB = War Production Board.

Conversion factors used.

1 acre = 0.40 ha.
1 board feet = 0.0024.
1 cord = 3.62 m³.
1 m³ = 35.3 cub. feet.
1 short ton = 907.2 kg.

The weight of the pulp is expressed as calculated dry weight. Since Finland's official foreign trade statistics do not give the exact moisture content of the shippings, the writer has been forced to make use of an approximate constant of 50 per cent when calculating the dry weight of wet pulp. From 1939 on, the official statistics give exact values. It has not been possible to avoid minor inaccuracies in the previous years.

Eventual slight differences in some of the tables in the totales given compared to the component figures are due to the calculations of the components being brought back to one decimal.

All the ton values given in this treatise are metric tons unless otherwise specified.

Suomen ja Yhdysvaltojen välinen puunjalostustuotteiden kauppa.

Johdanto.

USA:n ja Suomen väliset suhteet ovat peräisin jo 1600-luvulta, joskin varsinainen kauppa laajemmassa mittakaavassa kehittyi vasta v. 1918 jälkeen. Suomen kauppapoliittinen suuntautuminen nyt päättyneen maailmansodan jälkeen on ajankohtainen ja tärkeä kysymys. Onko katsottava, että vienti valtamerentakaisiin maihin on epäterve ilmiö, jos markkinoita on lähempänäkin? Varsinkin Suomen puunjalostusteollisuudella on tässä vakava ongelma ratkaistavana. Onko pidettävä vientimahdollisuuksia USA:han menetettyinä ja suunnattava vienti, kuten ennen edellistä maailmansotaa, Venäjälle? Tämän selvillesaamiseksi on suoritettava seuraavat kaksi analyysiä:

a) onko puunjalostustuotteiden tuonti USA:han luonnollinen ilmiö ja missä määrin Suomi voi osallistua tähän tuontiin;

b) voiko Neuvostoliitto pysyttää puunjalostusteollisuutensa sillä asteella, ettei mainittavaa tuontia tarvita, ja mitkä ovat edellytykset tähän.

Koska molempien edellä esitettyjen analyysien käsittely on liian laaja yhden tutkielman puitteisiin, tekijä on rajoittunut käsittelemään ensimmäistä osaa. Jotta voitaisiin saada vastaus siinä esitettyyn kysymykseen, on tutkittava mitä moninaisimpia taloudellisia y.m. tekijöitä, kuten USA:n raaka-ainevarastoja ja omaa puunjalostusteollisuutta, maailman tulevaa paperinkulutusta, sodanjälkeistä taloudellista kehitystä USA:ssa j.n.e.

Markkinakatsaus ja analyysi Suomen puunjalostustuotteiden viennistä USA:han.

Markkinakatsauksessa ja analyysissä aikaisemmasta kauppavaihdosta todetaan, että Suomen—USA:n välinen kauppa oli mitättömästä alusta v. 1919 nopeasti kehittynyt siten, että uuden maailmansodan syttyessä USA oli kolmannella sijalla Suomen vientimaista (taulukot 1 ja 4, s. 9 ja 31). Vientiartikkelit Suomen puolelta olivat jatkuvasti yli 90 %:sti puunjalostustuotteita (taulukko 6, s. 34), pääasiallisesti selluloosaa ja sanomalehtipaperia. Keskimäärin 1930-luvulla meni siten 24.0 % Suomen sulfiittiselluloosan viennistä, 28.0 % sulfaattiselluloosan viennistä sekä 30.1 % sanomalehtipaperin viennistä USA:han. Merkillepantavaa on, ettei sulfaattiselluloosan vienti osoittanut lamautumisen merkkejä 1930-luvun loppupuolella, vaikka USA:n omaa sulfaattituotantoa tähän aikaan valtavasti laajennettiin Etelävaltioissa. Muiden puunjalostustuotteiden vienti on ollut mitätön.

Mitä paperi- ja selluloosatuotteiden keskinäiseen suhteeseen tulee, on tämä kehittynyt nopeasti enemmän jalostettuja tuotteita kohti, ja voidaan todeta, että yleinen integratio USA:n kaupassa on ollut voimakkaampi kuin koko muussa ulkomaankaupassamme. Viennin taloudellinen tulos USA:n markkinoilla ei sitävastoin ole, kuten yleisesti lienee otaksuttu, ollut erikoisen edullinen verrattuna muihin maihin. Rahti- sekä myyntikustannukset ovat olleet siksi korkeat, että nettotulos on osoittautunut vähemmän suotuisaksi. Tämä koskee ainakin sulfaattiselluloosan

sekä sanomalehtipaperin vientiä. Sulfiittiselluloosan hinnat USA:ssa ovat sensijaan normaaliaikoina olleet siksi korkeat, että myyntitulos on ollut edullisempi kuin Suomen muilla päämarkkinoilla (taulukot 13, 18 ja 28 s. 40, 45 ja 52).

Myynnin organisointi ja rahtikysymykset.

Paperin ja selloloosan myynnin organisointi oli myyntijärjestöjen ansiosta järjestetty täysin tyydyttävästi, ja kyseenalaista on, olisiko USA:n markkinoiden laajentaminen ilman niitä ollut mahdollista. Kuvaavaa on, että vaneeri- ja sahateollisuus, joilta puuttui vastaava luja yhteistoiminta, epäonnistuivat vientiyrityksissään USA:han. Agentteina pyrittiin 1930-luvun loppupuolella yhä enemmän käyttämään kotimaisia voimia. Pisimmällä tässä suhteessa on Suomen Selluloosayhdistys, joka v. 1937 perusti oman agenttuuriliikkeen New Yorkiin nimellä Pulp Sales Corporation. Tätä sinänsä täysin hyväksyttävää periaatetta on kuitenkin sovellettava varovaisesti niin kauan kuin omien agenttien koulutus ulkomaita varten on maassamme varsin heikkoa. Myyntikustannukset USA:han olivat keskimäärin 2 % korkeammat kuin Englantiin.

Eurooppalaiset kartelliyhtymät puunjalostustuotteiden alalla eivät sanottavasti pystyneet vaikuttamaan USA:n markkinoilla. Keskimäärin vv. 1937—39 tuli siten ainoastaan 8 % USA:n koko sanomalehtipaperinkulutuksesta Euroopasta, hioketta ja selluloosaa taas 17 %. Varsinkin sodan aikana on USA:ssa vastenmielisyys kartelleja kohtaan yhä kasvanut ja viime aikoina kohdistunut myös puunjalostustuotteiden yhtymiä vastaan, joten eurooppalaisten kartellisopimusten uudistaminen ei ole suotavaa. Joka tapauksessa olisi vastaisessa kartellitoiminnassa yritettävä saada kulutusmaatkin mukaan, jolloin epäilemättä kartellitoiminta voisi vaikuttaa tasoittavasti markkinoihin.

Mitä kuljetusyhteyksiin USA:han tulee, olivat nämä 1930-luvun loppupuolella järjestyneet tyydyttävästi. Tällöin ulkomainen laivanvarustusyhtymä ylläpiti säännöllistä laivaliikennettä Suomen ja USA:n välillä kerran viikossa, jotapaitsi Suomella vuodesta 1936 alkaen on ollut toiminnassa oma Pohjois-Amerikan linja. Tällainen kehitys olikin varsin välttämätön, koska linjaliikennettä vaaditaan myös rahtilaivoille, jotta ostajat saisivat tavarat pienissä säännöllisissä erissä. Suomesta USA:han ja Englantiin viedyn selluloosan välinen rahtiero ilmenee taulukosta 34, s. 65. Missä määrin kuljetuskustannukset vaikuttivat Suomen kilpailuun USA:n ja Kanadan omien tehtaiden kanssa, ilmeeee taulukosta 35, s. 66. Kuten taulukosta käy selville, eivät ainakaan kanadalaiset tehtaat näytä olleen huomattavasti edullisemmassa asemassa rahtikustannuksiin nähden. Ainoastaan järvialueella sijaitsevilla tehtailla oli pienemmät kuljetuskustannukset kuin kanadalaisilla ja suomalaisilla tehtailla.

Pohjois-amerikkalaisten tehtaiden kuljetuskustannusten pieneneminen ei ole enää odotettavissa, koska nyt jo mahdollisimman suuressa mittakaavassa käytetään vesikuljetusta. Suoraan verrannollisia eivät esitetyt luvut kuitenkaan ole, koska Suomessa on vielä lisättävä rautatierahti, joka voi nousta huomattaviin summiin talvisaikana. Selluloosan suhteen rahtikustannukset ovat estäneet märän selluloosan tuntuvan viennin. Mitä sahatavaraan tulee, ovat rahtikustannukset vaikeana esteenä taloudellisesti kannattavan viennin järjestämiselle.

Kauppa- ja tullipolitiikka.

Kauppa- ja tullipolitiikka Suomen ja USA:n välillä ei ole aiheuttanut mainittavia erimielisyyksiä. USA oli tosin 1920-luvulla vakavasti liukumassa uus-merkantilismia kohti, mutta v. 1934 ryhdyttiin sovelluttamaan uutta vapaamielisempää kauppapoliittista ohjelmaa, jolloin tulleja alennettiin huomattavasti. Tämä ohjelma onkin vaikuttanut myönteisesti USA:n kauppaan.

Ensimmäiset varsinaiset kauppasopimukset USA:n kanssa olivat v. 1934 tehty konsulaarisopimus ja v. 1936 solmittu tariffisopimus. Ettei aikaisemmin ollut olemassa muuta kuin väliaikainen sopimus näistä asioista, vaikutti varmaan ehkäisevästi kauppavaihdon laajentumiseen aikaisempina vuosina. V. 1936 saatujen tullialennuksien jälkeen oli tulli tärkeimmille puunjalostustuotteille seuraava:

Koivuvaneeri	25 % arvosta
Lankarullat	25 % »
Käärepaperi	20 % »
Kiilloittamaton pahvi	10 % »
Muu pahvi	$ 14.50 tonnilta, mutta ei vähemman kuin 15 eikä yli 30 % arvosta.

Takeet selluloosan, puuhiokkeen ja sanomalehtipaperin tullivapaudesta annettiin.

USA:n taholta vaadittiin useaan otteeseen selluloosalle ja sanomalehtipaperille tullia väittämällä, että Euroopan tuottajat käyttämällä hyväkseen valuuttasuhteita polkivat hintoja USA:n markkinoilla. Todetaan helposti, ettei näin ollut asian laita vertaamalla 1930-luvun alkupuolella vietyjä määriä valuuttakehityskseen. Tulevissa kauppaneuvotteluissa on Suomen ennen kaikkea pyrittävä saamaan helpotuksia vaneeritulliin, minkä ei pitäisi olla mahdotonta huomioonottaen, että Venäjä vie melkein yksinomaan leppävaneeria. Myös standard sanomalehtipaperin laatuvaatimuksia olisi saatava muutetuiksi siten, että kalanterikiilloitettua ja paksumpaa paperia saataisiin viedä tullivapaasti. Tariffivaatimusten lisäksi myöskin alkuperämerkintävaatimukset vaikeuttivat eräiden tavaroiden vientiä. Neuvottelutietä oli kuitenkin päästy sodan syttyessä yhteisymmärrykseen muista tavaroista paitsi vaneerista. USA:n tuontitullit ovat yleensä kaikki arvotulleja ja siis tulkinnan varaisia, mikä seikka on huomioonotettava kauppaneuvotteluissa.

USA:n puunjalostusteollisuus ja raaka-ainevarastot.

USA:n paperin- ja selluloosan tuotanto voidaan jakaa neljään alueeseen: Koillinen alue, Järvialue, Länsirannikon alue ja Etelävaltioiden alue. Taulukosta 36, s. 77 näkyy näiden alueiden tuotanto vuosina 1929 ja 1935. Sodan syttyessä oli taulukosta näkyvä kehitys yhä vienyt siihen, että paperin ja selluloosan tuotanto oli siirtynyt Etelävaltioiden ja Länsirannikon alueille. Koillisen ja Järvialueen taantuva tuotanto johtui pääasiallisesti raaka-aineen niukkuudesta. Kokonaisuudessaan kasvoi kuitenkin USA:n selluloosan ja paperin tuotanto valtavasti vuoteen 1941 saakka (taulukot 39 ja 40, s. 83 ja 84). Ainoastaan sanomalehtipaperin tuotanto on 1920-luvun puolivälistä lähtien ollut laskusuunnassa. Taulukoista 41 ja 42, s. 85 ja 86 ilmenee USA:n selluloosan ja paperin tuonnin jakaantuminen.

Tutkimus Amerikan raaka-ainevarastoista osoittaa, ettei ole lähiaikoina odotettavissa puuvarojen puutetta, joskin hakkuut toistaiseksi ylittävät kasvun. Toteamme kuitenkin, että huomattava puuvarojen vajaus on olemassa Järvi- ja Koillisalueella, missä huolimatta parannetusta metsänhoidosta vastaisuudessakin metsäntuotteiden kulutus tulee olemaan tuotantoa suurempi. On ilmeistä, että vastaisissa markkinoiden laajentamispyrkimyksissä pääpaino on kohdistettava näihin alueisiin.

Merkillepantavana reservinä USA:n puunjalostusteollisuudelle ovat Alaskan metsävarat. Edullisimmin sijaitsevassa osassa lasketaan voitavan kehittää 800 000 tonnin vuotuinen selluloosan tuotanto. Tämä tuotanto kuitenkin tuskin hakeutuu Amerikan itärannikolle, koska kuljetuskustannukset Alaskasta sinne ovat korkeammat kuin Euroopasta tuotaessa. Sitäpaitsi Australian ja Itämaiden markkinat sijaitsevat edullisemmin Alaskaan nähden.

Metsäntuotteiden kulutus USA:ssa ja muualla.

Ratkaiseva merkitys USA:n markkinoille on kysymyksellä maailman vastaisesta paperituotteiden kulutuksesta. Tekijät, jotka vaikuttavat lisääntyvään metsäntuotteiden kulutukseen USA:ssa, ovat seuraavat:

Muiden paperilaatujen, paitsi sanomalehtipaperin kulutus on jatkuvasti kasvamassa.
Väestön lasketaan lisääntyvän vielä ainakin 20 vuotta.
Rakennusohjelma sodan jälkeen on valtava.
Plastic-teollisuuden halvin raaka-aine on puu.
Vaneerin käyttö on yhä lisääntynyt uusien keksintöjen kautta.
Muu raaka-aine, joka voi kilpailla puun kanssa, saadaan lähteistä, joilla ei ole jälkikasvua (rautakaivokset y.m.) minkä vuoksi puu ajan mittaan voittanee.

On vaikea arvostella, miten pitkälle tämä metsäntuotteiden kulutuksen kasvu jatkuu. Toteamme, että jos maailman väestön pääosa käyttäisi paperituotteita siinä laajuudessa kuin USA:n asukkaat v. 1936, maailman vuotuinen tarve lisääntyisi 30 miljoonasta 200 miljoonaan tonniin. Ne tekijät, jotka vaikuttavat metsäntuotteiden kulutuksen pienenemiseen, ovat selvästi alakynnessä.

Tutkittaessa USA:n vastaista tuontitarvetta saadaan tulokseksi, että välittömästi sodan jälkeen on maahan tuotava n. 2 milj. tonnia selluloosaa ja 2—3 milj. tonnia paperituotteita vuodessa. Tuontitarve näyttää siten pikemminkin ylittävän kuin alittavan 1930-luvun tuontitarpeen. Kun vielä huomioidaan USA:n oma puunjalostustuotteiden vienti, on todennäköistä, että tällainen tuontitarve tulee myös vastaisuudessa jatkumaan.

Suomen kilpailijat USA:n markkinoilla.

Miten USA:n selluloosan ja paperin tuonti jakaantuu maittain, selviää taulukoista 54 ja 55, s. 105 ja 106. Kanada on aina ollut USA:n pääasiallinen hankkija. Kanadan metsävaroista on toistaiseksi vain puutteellisia tietoja, mutta näyttää todennäköiseltä, että ainakin taloudellisesti edullisesti sijaitsevissa Quebecissa ja Ontariossa suoritetaan huomattavia liikahakkuita. Täten pakotetaan Kanadan paperiteollisuus vuosi vuodelta hankkimaan raaka-ainetarpeensa yhä kaukaisemmilta alueilta, joten raaka-ainekustannusten jatkuvaa nousua ei voida välttää. Kunnes kuljetusvaikeudet on saatu ratkaistuiksi, näyttää todennäköiseltä, että Kanadan puunjalostusteollisuuden jatkuva kasvu tulee tapahtumaan hitaammin kuin 1920- ja 1930-luvuilla.

Miten suuri osa Kanadan selluloosan ja paperin viennistä vastaisuudessa tapahtuu USA:han, riippuu osittain valuuttasuhteista ja toisaalta brittiläisen imperiumin suosituimmuuspolitiikasta. Tämä politiikka on sodan johdosta voimistunut, ja koska valuutan vakaantuminen näyttää todennäköiseltä, ei vienti USA:han lisääntyne.

Kanadan jälkeen Ruotsi on Suomen tärkein kilpailija USA:n markkinoilla. Tutkimus Ruotsin raaka-ainevaroista osoittaa, että maa sodan syttyessä suunnilleen oli saavuttanut puunjalostusteollisuutensa laajentumisen rajan. Puunjalostustuotteiden vienti USA:han lisääntynee ainoastaan niin kauan kuin USA:n varastot ovat vielä täyttämättä, jonka jälkeen kauppa arvattavasti palautuu sotaa edeltäneenä aikana vallinneisiin suhteisiin.

Muut maat tuskin pyrkivät kilpailemaan puunjalostustuotteiden viennissä USA:han, joskin Venäjän puuteollisuuden kehitystä ei voida arvostella. Kilpailu Amerikan markkinoista tulee todennäköisesti siis myöskin sodan jälkeen tapahtumaan Kanadan, Ruotsin ja Suomen kesken.

Sodanjälkeinen aika USA:ssa.

Huomattavin pulma sodanjälkeisessä USA:ssa on sotamenojen korvaaminen vastaavansuuruisella siviilikulutuksella. USA:n sotatuotanto oli mahdollinen lisäämällä tuotantoa eikä, kuten muissa maissa, kulutusta rajoittamalla. Täten on tuotantokapasiteettia kehitetty siten, että se huomattavasti ylittää kotimarkkinatarpeen. Jotta voitaisiin pysyttää korkea elintaso ja välttää työttömyyttä, tätä tuotantoa on ylläpidettävä. Luonnollisin keino tähän näyttäisi olevan viennin lisääminen myöntämällä luottoa vähemmän teollistettuihin maihin. Tämä viennin lisääminen tulee ajan mittaan johtamaan koko kaupan laajentumiseen. USA on varmaankin sodanjälkeisessä kauppapolitiikassa oleva vapaakaupan esitaistelija. Tästä johtuu, että sellainen tuontihaara kuin puunjalostustuotteet, joiden tarvetta USA itse ei pysty tyydyttämään, on katsottava luonnolliseksi eikä sitä ole mitenkään vastustettava. Ainakaan tässä suhteessa ei siis näyttäisi olevan mitään esteitä Suomen-Amerikan sodanjälkeiselle kaupalle.

Yleinen valuutan vakaantumisen saavuttaminen näyttää olevan mahdollinen, jolloin valuuttaeroavaisuuksista johtuvasta hintojen polkemiserimielisyydestä USA:n markkinoilla päästäisiin.

Maailman sodanjälkeiselle kaupalle on tonnistokysymys erittäin tärkeä. Verrattaessa sodan aikana upotettujen ja rakennettujen kauppa-alusten tonnistomääriä voidaan helposti todeta, ettei tule olemaan puutetta kauppa-aluksista. Varsinkin USA:n kauppalaivasto on kasvanut niin suureksi, että osa siitä on myytävä tai vuokrattava muille maille. Täten Suomellakin voi olla mahdollisuus lisätä kauppalaivastoaan, joka tällä hetkellä on mitätön. Kauppalaivastomme pienuus vaikuttaa kuitenkin rahtitulojen alenemiseen ja täten epäsuorasti kykyymme maksaa tuonti USA:sta.

Sodanjälkeisen Suomen-USA:n puunjalostustuotteiden kaupan mahdollisuudet.

On vielä vaikeaa arvostella, mitä pysyväisiä muutoksia sota on saanut aikaan USA:n markkinoilla, mutta eräisiin erikoispiirteisiin on kuitenkin tässä syytä kiinnittää huomiota. Etelävaltioiden paperiteollisuuden aikaisemmin erittäin edulliset tuotantotekijät ovat sodan aikana muuttuneet siten, että sekä raaka-ainekustannukset että työpalkat ovat huomattavasti kohonneet. Edellytykset teollisuuden laajentumiselle eivät täten enää ole yhtä edulliset kuin aikaisemmin. Nykyään voidaan myös todeta, ettei Etelävaltioissa voi kehittyä kilpailukykyistä sanomalehtipaperiteollisuutta, vaikkakin siellä valmistetun massan ominaisuuksia on huomattavasti parannettu. Voidaan siten katsoa, että Etelävaltioiden tuotanto tulee rajoittumaan sulfaatti- ja pahvimarkkinoille.

Toinen mielenkiintoinen ilmiö on USA:n oma sodanaikainen paperiteollisuustuotteiden viennin kehitys. Vuoteen 1939 saakka tämä vienti oli jokseenkin mitätön, ainoastaan 2—3 % kokonaistuotannosta, mutta on sodan aikana suuresti kasvanut, kuten ilmenee taulukosta 43 s. 86. Tämä vienti on kohdistunut pääasiallisesti Etelä-Amerikkaan ja Englantiin. Myös selluloosan vienti Japaniin tulee ilmeisesti sodan jälkeen jälleen pääsemään vauhtiin. Huomioonottaen Amerikan mantereen valtavan pinta-alan ja tästä johtuvat erilaiset kuljetuskustannukset, on pidettävä luonnollisena, että Etelävaltioiden ja Länsirannikon tuotannosta osa viedään ulkomaille, kun taas Koillisen alueen vajaus peitetään tuonnilla Kanadasta ja Skandinaviasta. Täten pitäisi olla mahdollista jopa säästää huomattavia rahtikustannuksia. Markkinoiden sisäisessä rakenteessa on seuraavat seikat otettava huomioon. Nykyään kuluttavat omavaraiset tehtaat 75 % massasta, kun taas 22 % käytetään jalostustehtaissa. Muu osa käytetään muihin tarkoituksiin kuin paperinvalmistukseen. Tuotantoteho on sotavuosina ollut siksi korkea ilman tarpeellisia korjauksia, että siitä täytyy seurata tuotannon aleneminen.

Analyysistä esiintuoduista seikoista voidaan päätellä, että USA:n puunjalostustuotteiden tuontitarve on luonnollinen ilmiö, jota myöskin vastaisuudessa voidaan pitää varmana. Missä määrin Suomi voi osallistua tämän tuontitarpeen tyydyttämiseen, on monimutkaisempi kysymys. USA:ssa vallalla oleva vapaakaupallinen suunta puhuu laajemman kauppavaihdon mahdollisuuden puolesta varsinkin kun sen vastapainona on Englannin imperialistisempi kauppapolitiikka.