

# Canadian Industry Goes to War

By FLOYD S. CHALMERS

THE total war has begun. It is being waged with ruthless fury. Adolf Hitler has decided that he must win the war this year, probably this summer, or that he cannot win it at all.

The cost in lives, in materials, in money, in morale is staggering. Our armies are fighting grimly but they are being pressed back. It is a dark hour and each paper brings us a new sheaf of bad news.

Behind the clouded headlines lies the elementary truth that this war is a struggle between the striking power and sticking power.

Adolf Hitler's totalitarian state planned and labored for seven arduous years of national sacrifice to create a war machine capable of delivering a more powerful thrust than any war machine in history has ever delivered. He has now struck with the full force of that machine. It was a blow from which any defending war machine might have reeled. But it has come with particular devastation because the Allied strategy has been to plan for a long war; to build up slowly and painstakingly to a peak of military strength in 1941 or 1942 when a smashing blow could be struck at Germany.

Hitler has not waited until we could get ready. So to-day we are forced to improvise. We are hard put to hold the military line as well as we can while we organize the economic front, while we speed up action on the industrial front to provide our fighting forces with the aircraft, the tanks, the guns, the munitions and the other *material* of war without which mere numbers of men count for nothing.

Hitler has been winning victories because Germany entered the war with superior striking power on the land and in the air (although not on the sea).

Hitler will, however, lose the war ultimately because of the superior economic sticking power of the Allies; their greater industrial strength, their access to key raw materials, their ability to mobilize for their own use the economic strength of the entire democratic world.

In the winning of the ultimate victory, Canadian industry, as an important factor in the superior economic strength of the Allies, will play a determining role.

Let us remember that the totalitarian war is as much a war of economic strategy as of military strategy. In the last war it was estimated that for every soldier on the firing line we needed two workers on the economic front at home. Now, mechanization of warfare has reached the point where every soldier must be backed up by between four and eight persons working in factories far behind the line.

But that is only one phase of the economic war. Both military and economic strategy are devised to insure vital, needed supplies of key materials, and to deny the enemy access to these materials. Economic measures, striking at the enemy on his home-front, are a key weapon.

There is a third phase to the economic warfare. It is to plan the financial and economic strategy with war's aftermath in mind; not to win the war at the expense of peace-time chaos, but rather to utilize our full economic capacity, to increase its productivity, to pay the bills in such a way that when the war is over we can, as quickly as possible, restore order and balance to our economic life.

\* \* \*

A nation does not raise an army of soldiers and tell them to get busy fighting the enemy, each soldier in his own way. There are Victoria Crosses for individual acts of heroism in war. But the essence of military success is not found in individualism but in organization. The moves of each military unit, of each

EDITOR'S NOTE: Floyd Chalmers is Editor of the *Financial Post* in Toronto. His article follows in broad outline an address which he presented at the Third Maritime Conference on Industrial Relations at Dalhousie University, April 24, 1940.

soldier, and sailor and airman, are planned and organized from above. Life on the home-front will become increasingly organized in similar fashion as the war goes on. Economic warfare demands long-range planning, efficient organization and centralized direction to a degree that would be repugnant to us, as free people, in times of peace. To tell everyone in Canada to get busy and produce all he can is not enough. There must be a focus for all such activity.

Canadian industry is one of the major elements of strength on the Allied economic front. Canadian industry stands ready to give its full cooperation in the war effort. Unfortunately, Canadian industry has, up to now, been mobilized for war production at a pace that is unrealistically slow in comparison with the tragic need for war supplies to meet the gigantic thrust of Hitler's forces.

\* \* \*

What is the role of our industrial plants in this bitterly contested struggle, in which we seek to restore freedom once more to the world?

When the war came, we knew that we were presented with a mighty challenge. Our experiences in the Great War of 1914-1918 had given us some clue as to what might be expected of us in this war. We knew that war would ultimately strain the productive capacity of our manufacturing plants to the very limit. We knew it would bring new problems. We knew that it would call into play all the technical skill and administrative ability of which Canadian business men are capable. We knew that the job of Canadian industry in this war would be to produce the sinews of war on a rapidly expanding scale; and to do so with efficiency and economy. But we did not know in September last—and we do not know in full detail even yet—exactly what the demands upon our factories might be.

War demands can change with amazing swiftness. One month ago our packing plants were slowing down on bacon production. To-day they face the prospect that they will shortly be asked to speed up to fill a serious gap in Britain's food supply left by the occupation of

Denmark. A month ago Britain had vast stores of shells of all sizes and varieties. They were accumulating more rapidly than they were being fired. To-day we may be at the point where ammunition is being rapidly used up.

\* \* \*

Whatever the major role assigned to Canadian plants, it will be a role allotted after due consideration of the industrial capacity of all the Allied nations. On the economic front, planning is on more than a narrow national front. The Allied fleets have been put under a single command. French and British soldiers march side by side under one generalissimo, who gives orders to all of them. In the same way the economic activities of all the Allied nations are being organized on a basis of unity of purpose, with friendly but far-reaching cooperation between France, Great Britain and all the Dominions. The aim and objective is to make the most effective possible use of the material resources that are available; to assign to each unit of productive capacity the role best fitted for it; to avoid competition between friends for the purchase of the same vital supplies, or for the right to use the same industrial capacity and the same shipping facilities—even the same supplies of gold and foreign exchange.

Up to now, Canadian industrialists have felt that their facilities have not been used to the fullest possible advantage. In the war of waiting that has been carried on for so many months, they were as restless and as eager to get into action as the soldiers manning the Maginot Line and the airmen at British bases. True, nearly every industrial plant in Canada has been given some war job to do, if only in supplying Canada's two army divisions with their needs. They were as diverse in character as socks, toothbrushes, shoe polish and clinical thermometers on the one hand, and tanks, machine guns, typewriters and gun carriages on the other hand.

But the requisitions on our plants have been much less than Canadian manufacturers had expected would be demanded of them. There have been disappointments, not based upon the

loss of expected profits, but caused by the desire to get along on the war job so that it could be finished up as quickly as possible. (As a partner in the war, Canada has had reason to feel alarmed that so much emphasis has been put upon Britain as the major base for the production of guns, shells, tanks, and other supplies. Persistent air attack on British plants would greatly reduce production and jeopardize the whole war effort.

Take shells, for instance. In the last war Canada became an enormous producer of shells. It was, in fact, one of the mainstays of the Allied needs in munitions. Canadian manufacturers know how to make shells. They have the skill as well as the equipment to turn them out on a very large scale. Up to now, shell demands on Canada have been small. Undoubtedly this situation will change, and it may change quickly, but in the meantime Canadian industry has been puzzled that one of the major roles it expected to play has not been assigned to it.

Another example is aircraft manufacture. A great many Canadian manufacturers believed that Canada could and would become the air arsenal of the Empire. But on the basis of present plans, the vast Commonwealth Air Training Scheme, in which Canada is cast for such a magnificent role, is to be for this country more a military than an industrial effort. True, Canadian aircraft plants are producing many planes to be used in the training of the airmen in the 100 schools and flying fields that are already being established here. But major reliance, particularly for the larger craft and entirely for the engines, is being placed in sources of supply outside Canada. The United States is to be the air arsenal of the Allies. This decision was not just a Canadian decision; it was an Allied decision. And Allied decisions will have much to do with determining the character of our industrial effort in this war.

It is obvious, however, that whatever the precise character of the roles assigned to Canada the final result

must be a very large-scale increase in the production of Canadian industry as a whole. These demands upon us will strain our industrial resources to the limit. The taut, efficient industrial plant that Canada has built up must and will be used upon a vast scale. The more vigorously the war is fought and the more "total" it becomes in its terror and its ruthlessness, the more necessary it will be to concentrate Allied munitions propaganda, allied aircraft manufacture, allied food production in the overseas countries that are comparatively free from the direct ravages of attack. And of the overseas countries in the war Canada is the first in industrial rank. Let us not think that the job given to Canadian industry to date represents the limit of what it will be called upon to perform. We have only started to go to work on the economic front in Canada.

We have to-day in Canada a manufacturing capacity and efficiency great enough to handle increased responsibilities upon a magnificent scale. Our population has increased by 44 per cent since 1914. Our industrial capacity has more than doubled. We have four times as much hydro-electric power. Our raw materials have been developed on an impressive scale. We produce six times as much gold (in value); eight times the quantity of copper; five times the quantity of nickel; eleven times the quantity of lead; five times the quantity of newsprint paper. We have machine tool and machinery plants such as we did not have in 1914. We make hundreds of products that we did not then make. Our workmen are more skilled; our industrialists more experienced. The capital of the Canadian people has multiplied enormously and we are less dependent than in 1914 upon foreign capital.

\* \* \*

A few examples may be given of this Allied economic planning in its effect upon Canada.

There is first the case of metals. Modern warfare is fought with metals—with copper and iron and zinc and lead and aluminum and many others. Canada is a large producer, particularly of the

base metals. But there are other nations that produce base metals, nations within the Commonwealth, and nations outside the Commonwealth whose goodwill and prosperity is vital to the Allied cause. The supply of metals has been organized on a world-wide scale. Canada has been brought into the picture in a large way, particularly with reference to copper, zinc, lead and aluminum.

A few days after war was declared British officials were on the long distance telephone to Ottawa and to the heads of Canadian base metal mining companies. A contract was soon completed under which Great Britain bought 420,000,000 pounds of copper at a "patriotic price" of 10.18 cents per pound. (This was the approximate price prevailing when war broke out. In the meantime the prevailing open market price had risen to over 13 cents a pound. In the last war copper climbed as high as 37 cents a pound.) The transaction made available to England, at a reasonable figure, about 80% of Canadian copper production, or approximately all of the copper that Canada produces beyond domestic needs. Under this contract Great Britain obtains large supplies of copper at a fixed price. The Canadian companies gained the benefit of a stable market at a known price. They were spared too the problem of finding the ship tonnage for laying down the copper in England. The contract runs to September 30, 1940, and is renewable at the option of the purchaser for a year or for the duration of the war. It provides for an increase in the price per pound if costs increase generally throughout the industry.

A somewhat similar contract was made with one lead producer, but the terms have not been published. The two chief producers of zinc have also contracted for sale on a similar basis.

The chief Canadian producer has also contracted to sell aluminum to Great Britain. The price is approximately that prevailing when the war began. The Aluminum Company of Canada is expanding its plant at a cost of some seven millions of dollars and will tremendously

increase its production of crude aluminum. All of the aluminum produced in Canada will be shipped to England except that required for prior contracts and Canadian needs.

So far as is known, no definite contract has been made for the sale of nickel to Great Britain. But the nickel price has been maintained at a steady level for many years and the supply is so closely controlled that it was probably felt that no specific year was necessary. Nevertheless the export of nickel is under very strict control by a system of export licenses granted by the Canadian Government. Several hundred firms throughout the world, suspected to have German connections, are unable to buy nickel at all.

\* \* \*

In the field of food products there has been the very closest co-operation, on an Empire scale, between producers overseas and the British government, representing the British consumer.

Typical is the bacon "deal" which came into effect November 17, 1939, and runs until October 31, 1940. A special bacon board has been set up at Ottawa on which there is representation of the producers, the government and the packers. This Board is responsible for exports of 4,480,000 pounds of bacon per week during the life of the agreement. The contract price is \$20.18 per 112 pounds f.o.b. the point of export to Great Britain. It is equivalent to about nine cents per pound live weight for hogs at the various packing plants. Annual volume of the trade is estimated at approximately \$50,000,000. Under the arrangement, the packers buy the hogs at a price considered fair by the Bacon Board, the packers slaughter and dress them, turn the product over to the Board and the Board sells to the British Government. The latter pays the Board and the Board pays the packers. The Board has some opportunity of regulating prices by building up a fund out of any profits that they may consider fair. This fund may be used to bolster hog prices slightly during lean delivery months and the Board can also lower prices when there promises to be any

glut of hogs. In this way, some measure of uniform supply may be achieved. It is likely that similar arrangements in respect to other agricultural products will come into being as the war carries on. Nothing more need be said here on this subject as the effects of the war on Canadian agriculture form the subject of a special article in this issue.

\* \* \*

In all of these arrangements we see a number of common factors.

1. The prices paid to Canadian producers are, generally speaking, the prices prevailing at the outbreak of war. Thus an additional measure of protection is provided against an inflationary price spiral in either Britain or Canada.

2. The contracts make available to Great Britain some of the more important economic sinews of war, in the production of which Canada occupies a key position.

3. The contracts provide Canada with an assured market during the war years for the full existing capacity and (in some cases) for increased output of materials that are of vital importance in our national economy.

4. In all the contracts one or both of the governments have entered in. What this precedent may mean in modifying the free operation of our capitalist system in the coming days of peace remains to be seen.

5. But of outstanding importance is the protection afforded against profiteering.

\* \* \*

As the war is certain to tax Canada's industrial capacity, it is bound to alter the character of the production in many factories. It is exceedingly difficult to generalize as to the effect of the war on Canadian industry. It is equally difficult to generalize as to the effect of the war on our export industries. The war has had varied effects on our export trade. On the one hand it has erected innumerable obstacles in many of our best markets. On the other hand it has opened up new markets and increased the demands from some well established ones.

Certain markets have been closed. The most obvious one is Germany which bought \$17 millions of Canadian products in the twelve months preceding the war. Fate will probably decree that other markets will be closed to us before the war is over.

In some very important markets the character of our trade has altered. Britain and France have been forced to control rigidly the import of many commodities. Australia and New Zealand, to protect their currencies have put on stiff import embargoes that directly affect many Canadian plants.

In still other markets we are meeting stiffer competition. As the area left for more or less free trading narrows, the competition becomes keener. Britain, for example, is anxious to hold as much as possible of her export trade. She cannot win the war unless she can continue to export in large volume. So Britain is making an effort to increase her trade in all the world markets that are open to her. Canadian exporters are already feeling the effect of this British competition especially in South America, the British West Indies, and the other Dominions.

Britain is not alone in pressing her export trade. The United States is seeking to establish new connections in markets vacated by Germany and other European nations. Japan is giving increasingly strong competition as she seeks to restore the terrible wastes of her Chinese war expenditures. Many other Dominion and neutral countries have their hands in the jumbled grab bag of world markets to-day.

Increased war risk insurance rates and the difficulty in getting ocean shipping space are new factors. War risk rates have increased as much as 500 per cent and cargo rates accordingly. It costs more to ship a ton of newsprint to England than the Canadian mill is paid for it.

The Ottawa correspondent of the *New York Times* put all these facts together the other day and came to the disquieting conclusion that Canada is approaching a trade crisis. But it may be that he

has overlooked some other factors in the foreign trade situation; such as the impending increase in the war demand on Canada. Certainly there is nothing in our export figures for the first six months of war to suggest a threat of crisis. In that period we increased our exports by 20 per cent although the export of war materials had not yet reached anything like their maximum amounts. The figures follow:

### CANADIAN EXPORTS

September to February, Exclusive of Gold

	1939-40	1938-39	Change
All countries.....	\$531,258	\$442,896	+ 20 %
Empire countries....	237,670	225,154	+ 5.5%
British West Indies.	6,878	5,752	+ 19.6%
British South Africa.	9,412	7,007	+ 34.3%
Australia.....	17,770	15,890	+ 11.2%
New Zealand.....	3,297	8,987	- 63 %
United Kingdom....	182,791	174,560	+ 4.6%
United States.....	235,127	151,127	+ 55 %
Argentina.....	2,768	1,773	+ 56 %
Brazil.....	3,156	1,512	+108 %
China.....	796	1,903	- 58 %
Japan.....	13,433	13,804	- 2.7%
Mexico.....	1,679	1,130	+ 48 %
Norway.....	7,045	4,155	+ 69 %

What lies ahead for us in our war-time export trade? Our two most important markets are the United States and the United Kingdom. The United States has been increasing its purchases from Canada. In the six months period referred to the United States bought 55 per cent more from us than in the same period of the previous year. In some commodities at least the prospects are for continued increases. For instance the U. S. A. will have to turn to us for newsprint to replace supplies formerly obtained from the Scandinavian countries.

The United Kingdom may have drastically curtailed its imports of many products from Canada. But it will have to buy more and more munitions, metals and other war supplies, and more foodstuffs from Canada. A few weeks ago it was predicted that during the first year of war Canada's exports to Britain would reach a value of at least \$550 million, made up of \$350 millions' worth

of foodstuffs, \$110 millions' worth of base metals, nickel and aluminum, another \$110 millions' worth of aeroplanes and accessories, \$45 millions' worth of munitions and \$20 millions' worth of lumber and miscellaneous commodities. New conditions have since come into the picture to suggest that these figures may be exceeded. The intensification of actual combat operations is likely to lead to a speeding up in the demand for munitions. The shutting off of certain sources upon which Britain has depended for foods will increase the requisitions upon our own farmers. And, thirdly, the invasion of Scandinavia has made available for the North Atlantic route (where they are badly needed) a number of Norwegian and Danish vessels that have in the past sought to stay out of the more hazardous shipping lanes.

For these supplies sent to Britain we shall be paid, in considerable measure, by the repatriation of our own securities now held by British investors. Thus we may come out of the war a creditor rather than a debtor of Britain. In our trade relations with the United States the picture may be different. While we are selling more to the U. S. than a year ago, the major increases in our imports will probably be from that country. Even as we supply war materials to Britain we shall have to increase our imports of certain raw materials and machinery from south of the border. Obviously we cannot pay for increased purchases in the United States with our own securities repatriated from England. And since the American neutrality laws bar new loans to Canada we are going to have to see that our international account with the United States and other dollar countries is balanced during the war.

\* \* \*

In the first part of this article the prediction has been made that the demands upon Canadian producers—both industrial and agricultural—will grow very rapidly as the war broadens out. That brings us to another serious problem—the threat of possible over-expansion

and the unbalancing of our industrial and agricultural capacity.

It is an old axiom that "wars create factories". To the degree that this war leads to the building up of excess industrial capacity, which we cannot profitably use when the war is over, we shall merely intensify the seriousness of the problem of post-war adjustment. In the last war, we did not worry very much when new factories sprang up all over Canada. We did not worry much when we more than doubled our wheat acreage. Our manufacturers were told that it was their patriotic duty to produce more of the munitions of war. They did not need to be told. They were lined up before the offices of the Imperial Munitions Board looking for orders. Our farmers were told that they had to grow more food to help us win the war. They were encouraged to open up new land and to go into debt to buy more land and new farm equipment.

After the war there was an extended period of readjustment; of liquidation of war-time investment. The readjustment was easier in the case of industry than in the case of farming. Scores of chemical and explosives plants, shell factories, woollen mills and other war plants simply closed down. They could not adjust themselves to the hard test of peace-time competition. But at the same time new industries were opening up: electro-metallurgical, base metal refining, newsprint, chemical, etc. Our tremendous reserves of cheap water power came into play to provide new peace jobs for war workers. It was more difficult on the farms. The adjustment there was long delayed. It is not complete yet. The farmers were loaded with the new debts but the new markets one by one folded up.

Is there anything from our experience in the last war in that respect that can guide us in this war? How can we extract the maximum of production out of our existing farms, mines and factories; and provide for temporary increases in capacity on a self-liquidating basis? It will take the most careful planning to achieve in Canada the increased production we shall need without getting

our whole economy out of balance. The fact that every factory in Canada has been brought under the supreme authority of a ministry of munitions and supply should enable us to handle this problem with greater efficiency than if there were no active co-ordination between the demands of the armed forces and the production of individual factories\*.

There is, one financial, principle that might to advantage be kept foremost; that is the principle of paying for war-time expansion out of war-time production. We have seen how much grief came to our farmers from going into debt to expand their output, in order to meet what turned out to be, in so many instances, a temporary demand. Debt became the very essence of the problem. And debt can become the essence of the problem of industrial expansion, too, if we are not careful. If war plants have to be built, then we shall have to build them. If factories have to extend their present plants or instal new machinery in order that we may win the war then those increased facilities will have to be provided. But unless there is good evidence that they are going to be needed in peace-time let us build them frankly as war plants and let us finance them as war plants. Let us see that the capital investment in them does not continue as a long term debt but it is written off in the war years as a depreciation and obsolescence charge included in the prices paid for their products. Otherwise we shall conceal a part of the real cost of the war. Otherwise we shall create fictitious profits for industry, and fictitious savings in our war bills, that will haunt us in the post-war years.

The very best of planning and management, however, will not leave us without post-war problems to solve, including the probable problem of over-expanded industrial capacity. It is certainly not too early to think of that

\*The writer holds the view, however, that no adequate co-ordination or speed-up of war supply can be achieved through the existing system at Ottawa. To get results we shall have to mobilize Canadian industry under an executive of the highest calibre, charged with organizing production as Sir Joseph Flavelle did in Canada and Bernard M. Baruch in the United States in the Great War.

particular post-war problem. After 1918 this country quickly bounced back to rather solid industrial prosperity. We did it, as mentioned before, by creating new industries based upon our great power and raw material resources. In short, we found new frontiers of development and by pushing back those frontiers we made ourselves so prosperous for several years that our war debt was not at all beyond our capacity to carry.

What new frontiers will we find after this war? The writer is happy to offer his own humble suggestion as to what they might be: the migration on a large scale of people and industries from the chaotic old world to the newer, more peaceful, more secure land of Canada.

\* \* \*

Canada will be able to make a magnificent contribution to this war. Canada is almost an industrial empire in itself. A few only of the dramatic figures of Canada's growth as an economic giant in the years between 1914 and 1939 have been recited in this paper. They present an impressive story of gathering strength, strength that can now be marshalled in the cause of victory.

In the long run, the cost of war to

Canada will be less than the cost to other countries. We are already producing new wealth, greater than our war costs. We are one country that is not fighting this war by using up its capital. It is not suggested that Canada is going to get rich out of this war. But the net economic sacrifices that we shall make, will be trifling compared to the sacrifices that will have to be made by the mother of the British nations. We in Canada are again producing the material sinews of war and getting paid for producing them.

\* \* \*

In this war what we are matched against is an economy weaker than our own, that is, however, magnified in power by organization, discipline and an obvious willingness to make whatever sacrifices may be demanded. Surely it is obvious what such a challenge demands of us. It is that we too achieve an efficient national organization of our economic and financial life; that we too accept the necessary discipline and control; that we too pay the bills the only way they can be paid—by increased production and by personal sacrifice, which is just another way of saying by hard work and self-denial.

---

## War and Canadian Agriculture

---

By J. E. LATTIMER

---

CANADIAN Agriculture is peculiarly dependent on the success of the allied armies in the present war. This is on account of the dependence of the agriculture of the country on world markets and greater freedom of trade as opposed to the self-sufficing, closed economy and regimentation of the totalitarian powers. The business of farming in Canada depends directly, and to a very great degree, on the extent of freedom of trade that may be maintained while the war proceeds and the freedom of trade that

may be secured when the war is over.

The recent development of this dependence, the position at the present time and the probable future position, is the subject of this discussion. The effect of the war, thus far, on agriculture and the probable effect for the duration will of necessity be included yet this is a minor matter compared with the main theme.

### Development of Dependence on World Markets.

The dependence of Canadian agriculture on world trade has increased tremendously in recent years. The ex-

EDITOR'S NOTE: J. E. Lattimer is Professor of Agricultural Economics, Faculty of Agriculture, MacDonald College, (McGill University), Que.