Diversifying Foreign Trade as a Risk Insurance Device: From Cold War Bilateral Trade to Globalized Markets

Vesa Kanniainen
University of Helsinki and CESifo

and

Jussi Mustonen
Confederation of Finnish Industries

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Abstract

The paper studies international trade arrangements from the macroeconomic risk management point of view. The Finnish bilateral trade with Soviet Union during the cold war has been viewed as an insurance instrument in phase of cyclical export markets in the Western trade. The subsequent shift to market-determined international trade has intensified both the transmission of demand and other shocks but also provided a more efficient risk management through extended diversification.

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Vesa Kanniainen
Department of Economics
University of Helsinki
P.O. Box 17 (Arkadiankatu 7)
FI-00014 University of Helsinki
Finland

vesa.kanniainen@helsinki.fi

Jussi Mustonen
Confederation of Finnish Industries, EK
P.O. Box 30 (Eteläranta 10)
FI-00130 Helsinki
Finland

jussi.mustonen@ek.fi

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1 Introduction

Finland is a country which after the war developed an innovative trade policy. We suggest in this paper that a useful way to evaluate the trade relations is provided by their ability to manage macroeconomic risks. Forest products were the dominating export products for Finland in the Western markets. Its gigantic paper companies had a large share in the foreign markets for paper and timber. Such markets, however, were cyclical in that the demand for paper and timber had a substantial cyclical demand component. Two policy strategies were developed by the country. First, the exchange rate policy was geared towards the option of devaluation of the Finnish markka whenever the profitability of its major export sector had turned down. Such adjustments became frequently necessary once this policy principle was imbedded in the expectations of the employers’ and employees’ organizations.\(^1\) There was room for an obvious moral hazard in the collective wage bargaining of these organizations at the expense of other sectors. The labor unions, in particular, learned how to exploit their position when the companies had committed to irreversible investments in specific assets like paper mills.\(^2\) Second, special trade arrangements in terms of a bilateral mutual exchange between Finland and Soviet Union were developed. Finland exported consumer goods like textiles, shoes, clothing but also metal products and investment goods. Construction exports were also important particular when Kostamus, a mining industrial city was built in Karelia. Energy was exported by Soviet Union. It is well-known that the Finnish trading partners were better informed of how to price the products. In the Soviet trade, the profit margins were therefore quite large exceeding those in the Western Finnish trade.

Such a bilateral trade agreement developed into a remarkable trade sector.\(^3\) Actually, its roots are in the war remuneration which Finland had to pay to Soviet Union after the Second World War was over. The remuneration amounted to 300 million gold dollars (subsequently reduced to 226,5 dollars) during seven years but had to be delivered in terms of products and captured at the highest 15-16 per cent of the budget of the government up to 1952 when the debt was considered to be paid.\(^4\) Many industries were developed to meet the Soviet

\(^1\) The duration of the devaluation cycle was typically about one decade. It is well-known that the idea of the devaluation cycle was introduced and discussed by several Finnish economists, including Tuure Junnila, Sixten Korkman, Pekka Korpinen, Seppo Kykkänen, and Jouko Paunio. It was further evaluated by Korpinen (1981). An illuminating discussion on the history of Finnish economic policy after the post war period is provided by Lindblom (2002).

\(^2\) The economic analysis of such bargaining became understood with the paper by Grout (1984).

\(^3\) The picture attached provides information on the Finnish exports to Russia/Soviet Union over two hundred years. As the Grand Duchy of the Russia empire since 1809, the Finnish exports developed favorably. At the outbreak of the First World War, its exports accelerated as Russia needed both inputs for the war industry and food supplies. The trade ended for a long period after Finland had become independent in 1917. Our focus here is on the years after the collapse of Soviet Union in 1991.

\(^4\) It should be mentioned that Finland was actually the only country which paid all the war
requirements, especially the metal industry.\footnote{remuneration demanded after the war.}

The subsequent bilateral Soviet trade was viewed as an appropriate risk insurance device for Finland given that the Western export market was the subject of demand shocks and business cycles. Its share amounted to 20-25 per cent of the total Finnish exports in the 1980s, reduced subsequently by about half during the last few years of the Soviet Union and collapsed down to just a few per cent with the breakdown of Soviet Union. There was also a loss to Finland in that she had been running a trade surplus for quite some time and the Russian state did not pay the Soviet debts to Finland.

The adverse demand shock was then substantial leading to a collapse of GNP by 13\% in 1991-93. It was associated with a foreign exchange crisis as Finland tried unsuccessfully to peg its exchange rate relative to the western trade basket. This shock also led to a severe banking crisis. The new recovery did not start before 1994. Once it started, it was accompanied by an unexpected emergence of a new industry, the telecommunications, with the Nokia company as the North Star.

This paper studies the international trade arrangements during and after the cold war. It employs the tools of economics and finance to examine ex post the risk management implications of the two trade strategies. The Finnish bilateral trade with Soviet Union during the cold war has been viewed as an insurance instrument in phase of cyclical export markets in the Western trade. The subsequent shift to market-determined international trade has intensified both the transmission of demand and other shocks but also provided a more efficient risk management through extended diversification. Moreover, it is predicted by the economic analysis that the Ricardian principle of comparative advantage operates more efficiently in the decentralized trade arrangements. We acknowledge that the final verdict, however, should rest on the econometric work on those issues.

In Section 2 of this paper, we analyze this mechanism using a non-cooperative game theoretic model. Section 3 evaluates the post-war foreign trade policy of Finland. In Section 4, we characterize the trade during the second wave of globalization, i.e. the period over the last three decades.
2 Bilateral Trade: A Multi-Period Game Theoretic Model

This model was developed in Kannaiainen and Mustonen (1989). They write "It has been held as sacrosanct within political folklore that such balanced bilateral trade is a blessing for both economies. Yet, in terms of traditional welfare economics, multilateral trade arrangements, with the opportunity of short-term international borrowing and lending, are generally regarded as conducive to improved welfare in contrast to the situation whereby trade has to be balanced". The model sheds light on this issue.

In their analysis, variations in the level of bilateral trade may be a consequence of an optimizing outcome over a long period which is, in itself a reflection of mutual understanding of how to split potential joint benefits. They find it likely that in a multi-period context, there are stabilizing mechanisms involved which give rise to welfare gains relative to one-period bilateral agreements in trade. They show that the trading partners may realize that over a stretch of time, a trade rule based on intertemporal comparison of mutual benefits and losses forms a subgame perfect equilibrium. The resultant equilibrium is claimed to satisfy the property of time-consistency. Interestingly enough, this equilibrium does not require a cooperative approach with binding contracts. Rather, the equilibrium is obtained through purely non-cooperative behavior.

Consider hence mutual imports to be the choice variables of the market economy (ME, Finland) and the centrally planned economy (CPE, Soviet Union). As trade is balanced for each period, the choice of imports determines also the exports. It will be demonstrated that, in a repeated game, their actual values may be different from their desired values in a one-period game. The latter is denoted by $j$ (the desired imports of the ME from the CPE) and $k$ (the desired imports of the CPE from the ME). The focus will be on the short-term policy goal of stabilization of domestic production and employment. The ME is viewed to be a small open economy operating under pegged exchange rates; the multilateral export demand ($x$) is regarded as the basic source of aggregate demand shock. Breaking down the trade balance of the ME into its multilateral and bilateral components, its aggregate output ($y$) is determined according to the open economy supply-demand equality (the Keynesian IS-curve),

$$ y = e(y) + x + z, \quad (1) $$

where $e(y)$ gives the standard aggregate domestic demand.

Assume that there is an unpredictable change, say a reduction in multilateral exports, $x$. The ME is able to stabilize its production if it can persuade the CPE to increase its imports $z$. For this to happen, two conditions must be satisfied. First, the suggested policy change has to be optimal for the CPE from the point of view of its long-term aims. Second, given the balanced trade requirement, the ME has to be willing to increase its imports from the CPE ($j$) in the short run. In view of the goal of stabilizing production $y$ in (1), a given realization of $x$ defines a unique desired value for imports $y$. Any deviation of the actual trade,
to be denoted by \( w \), from the desired value \( q \) is viewed to lead to increasing welfare losses to the ME in terms of aggregate employment. Let \( 0 < \beta < 1 \) denote the discount factor of the ME, its intertemporal welfare loss can be stated as

\[
V = \sum_{t=1}^{\infty} \beta^t (w_t - q)^2.
\]  

(2)

The CPE is viewed to have a desired target imports from the ME (denoted by \(} \). Again, as its deviation from the actual trade are regarded as welfare-decreasing, the welfare loss of the CPE can be presented as

\[
U = \sum_{t=1}^{\infty} \beta^t c(z_t - w_t)^2, \quad z_t = z, \quad c > 0.
\]  

(3)

We notice that we have assumed the same discount rates for both economies and that the desired level of trade \( z \) is fixed.

The information structure of the game is as follows. The game starts in period 0 when there is a draw from the probability distribution of \( x \). The outcome is public information to both trading partners. Then both make simultaneous moves (proposals concerning the actual level of trade, \( w \)). The game is repeated at in.nitum. The probability distribution of \( g_1 \cdot g \cdot g_2 \) is denoted by \( F \) and is fully determined by that of \( x \). Denoting \( w^M = \min z \cdot g \) the trade strategy when one-period targets are chosen, the one-period expected welfare losses under such strategy are given by

\[
E[u^M] = \frac{Z_z}{Z_g} c(z - g)^2 dF(g)
\]  

(4)

\[
E[v^M] = \frac{Z_{g_1}}{Z_g} (z - g)^2 dF(g).
\]  

(5)

The expected discounted welfare losses over the whole future horizon under \( w^M \) strategy are then given in period \( t \) by

\[
E(u^M_t) = c(z_t - w^M_t)^2 + aE(u^M), \quad a = \beta/(1 \cdot \beta)
\]  

(6)

\[
E(v^M_t) = (g_t - w^M_t)^2 + aE(v^M).
\]  

(7)

The question now is whether alternative trade strategies can be found which lead to smaller welfare losses compared with these. The question arises for the reason that when \( g_t < z \), the CPE has an incentive to proposes an increase in trade over and above \( w^M \). Similarly, the ME has an incentive to proposes an increase when \( g_t > z \). In light of the Folk theorem, there are obviously a great many ways to divide the potential joint bene.ts. A natural candidate for a (Pareto-)superior strategy in a multi-period context is the weighted average of the one-period targets, denoted as

\[
w_t^M = qz + (1 \cdot q)g_t
\]  

4
where the weights reflect the relative negotiating power of the trading partners.

The paper by Kanniainen and Mustonen (1989) finds the conditions under which $w^B$ is an equilibrium strategy, allowing the partners to sustain an outcome that strictly dominates the outcome in the corresponding repeated one-period game. Given the probability distribution $F(y)$ and the parameters of the loss function, the authors show that there is an upper limit for the rate of time preference of the trading partners which cannot be exceeded to make the suggested strategy Pareto-superior. The game was supposed to last for ever. With the breakdown of the CPE, it became terminated.

3 Collective Risk Insurance and Visible Hand Shakes

The governmental controls have been quite extensive in shaping the post-war Finnish economic progress not only in the foreign trade policy in Finland. Many other institutional arrangements in the sense of collective insurance mechanisms were developed to manage macroeconomic and industry risks in Finland (Kanniainen (1993)). In promoting the foreign trade, governmental guarantees were widely employed. Tax policy was directed to promote internal corporate investment in growing industries. Competition policy explicitly allowed for cartels up to 1988 when they became illegal (Feldman (2009)). Actually, until 1958 there was no competition law in the country. Subsequently, cartels became allowed but had to be registered. Over the period of its existence, the Finnish Cartel Registry registered as many as 900 cartels.

Monetary policy was built on the control of bank credit, regulation of the average lending rates, and cartel in the accumulation of bank deposits with untaxed deposit interest income. As mentioned, the foreign exchange policy was based on the option to devalue the currency whenever the success of the export sector was at stake. Incomes policy was developed to manage wage formation in the spirit of the corporatist Nordic model. The key principle echoed the development in the cooperative game theory, it was the time of “consensus”.

For decades, the visible hand of policy-makers worked quite well. The country developed economically. There were large economic gains. There were also economic costs. The incomes policy which was considered a necessary input resulted in an economy which was highly sensitive to business cycles. The export shocks were aggravated by the domestic institutional mechanisms. Monetary policy did not succeed in stabilizing the economy. It was the contrary which was the case. The inflation rate climbed high in international comparisons. The celebrated incomes policy had its side effects. From time to time, union strikes shaped the economic progress.

The bilateral trade was only loosely - if at all - linked to the price system. The second source of ineffectiveness could be traced to the political/business relations. In economics, such relations are seldom regarded as an efficient approach

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6 More on this topic, one can find in Holopainen (2007).
though informational gains might be available. As a result, the quality of the export products in the Soviet market was secondary and could not qualify for the Western market. Most dramatic, with the Soviet collapse, a substantial share of the bilateral trade was wiped away. The mechanism though to provide an insurance had instead become the source of a dramatic shock which no other country in Europe had experienced since the war.

4 The Second Globalization Wave in the World Trade

The access to Western markets was developed step by step despite the efforts of Soviet Union to maintain its political control. Finland joined the Western trade organizations one after the other. Ultimately, Finland joined EU and its monetary union.

Starting with the first wave of the world globalization in the late 19th century, Finland has benefited from the import of foreign capital. Many foreign names like Gutzeit, Fazer, Finlayson, Sinebrychoff etc. are from those decades when the economic foundations for many industries were built. Subsequently, Finland has enjoyed the advantages of foreign markets by exporting paper and timber. After the Great Finnish Depression in 1991–93, the export sectors expanded to capture metal and electronics in particular. Finland has also substantially benefited from the second globalization phase of the world economy over the past thirty years. With the changed trade arrangements, the insurance mechanisms associated with the trade have substantially changed as follows.

(i) The overall stability of the economy has increased substantially for the reason that the country has given up its autonomous domestic monetary policy by joining the European monetary union. Finland joined the common market with the target of free mobility of goods, labor and capital. One important source of instability - domestic policy mistakes - has been eliminated. This choice is different from what Sweden did as she decided to keep its own currency as an insurance device. Finland has indeed benefited from historically low interest rates and stable monetary conditions. Sweden has not done much
worse in terms of stability but its gains from the depreciation of its currency in
the recent crisis have been at most temporary. Absence of the exchange rate as
a policy tool has had its cost: the euro appreciated for example against the US
$ by more 50% within a decade but so far it can be argued that the gains of ab-
staining from independent monetary policy have been far greater than its costs.
Moreover, the European market is of course far more important for Finland
than the US market.

(ii) By internal adjustment, Finland passed its 1991-93 crisis and man-
aged to maintain government ...cal stability.

(iii) Collective wage bargaining has been abolished to allow for greater
differences in wage formation between industries and more appropriate with the
principles of the globalized world. This step can be viewed as an approach to
search for the true comparative advantages.11

(iv) Production of many export goods has, however, moved to the de-
veloping economies to take the advantage of their comparative advantage in such
activities. There are therefore new pressures to develop new industries.

(v) There has been room for more risk-taking. The country and its
companies have actively invested in R&D to produce innovations in new high-
tech industries. It has not been slow second but a fast ...rst.

(vi) The export sector is more diversi ...ed than ever before, faces a strict
competition abroad and is controlled by international governance principles im-
posed by internationalized company ownership.

By these arrangements, the country has experienced a shift from the old era
of high inflation, strong business cycles and "lazy capital" to the era of "efficient
capital" where the return to capital is determined in the international ...nancial
market.

5 Conclusions

Trade and exchange are the keys to the economic welfare. In Finland, the trade
policy has gone a long way from the bilateral arrangements towards market-
based trade. Trade is governed by the Ricardian principle of comparative ad-
vantage and the ...rms are searching for those advantages by their location de-
cisions. The target of isolating the economies from the demand and supply
shocks is more demanding as the shocks are spread all over in the globalized
world. This is the true price of globalization. The bene ...ts include the more
diversi ...ed economic structures to meet the economic shocks.

The most recent economic crisis shows that the global economy is a closed
system. In a closed system, economic risks cannot be diversi ...ed away - though
the diversification remains the key risk management device both for investors
and trade policy. The derivatives represent a new risk management device at
the investor level. The crisis shows, however, that these innovations have to
be planned and managed more carefully than has been done in the past. One

11 As a consequence, the implicit subsidy to high-productivity ...rms which existed with
centralized bargaining has been eliminated.
conclusion is clear. When countries become economically more linked together, the world becomes safer: the costs of lost economic prosperity will not be easily wiped out by hostile activities. The recent economic crisis has, however, led to increasing protectionist policy stances in many countries. In public procurements, domestic producers tend to be favored. Domestic automobile industries, for example, are supported by national governments. Buy American Act in the USA has a long history but has recently been partly mitigated in the face of the increasing fears of trade wars. The wars will not disappear. But they may become warmer instead of being cold.

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Finnish Exports to Russia/Soviet Union, % of Total Exports

Source: Board of Customs, ETLA
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