Recession in the Initial Phase of a Stabilization Program

The Experience of Finland

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AMONG THE STABILIZATION PROGRAMS which have been undertaken in the postwar period, a number—but by no means all—have been marked by recession in their initial phase. Various explanations have been advanced to account for this phenomenon. Some would lay the blame on the restrictive budget and credit policies involved in the stabilization programs themselves. Others, e.g., Dorrance, would trace the recession in question to an inevitable decline in investment.[1] This decline, he contends, occurs because investments of the kind that are profitable under inflationary circumstances (for instance in inventories, owner-occupied housing, and protected industries) necessarily diminish when stabilization of the economy is undertaken, while those investments which are more appropriate to a stable environment increase and pick up the slack only after an unavoidable time lag.

In what follows it is not intended to argue that these and other explanations are wrong and that they do not apply very well to certain past stabilization programs. The object of this paper is to describe another factor contributing to the downswings in question, a factor which has not received its due share of the limelight. This approach emphasizes the redistribution of income between wage and salary earners and the rest of the economic community, which results in various degrees from the application of stabilization measures. The basic idea involved is certainly not new. For instance, it is outlined by Polak, Alexander, Spraos, and Bernstein.[2] But it has only

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[1] See Graeme S. Dorrance, "The Effect of Inflation on Economic Development," *Staff Papers*, Vol. X (1963), pp. 1–47.

[2] J. J. Polak, *Depreciation to Meet a Situation of Overinvestment* (unpublished memorandum, September 19, 1948).

Sidney S. Alexander, "Effects of a Devaluation on a Trade Balance," *Staff Papers*, Vol. II (1951–52), p. 273. [*Footnote continued on opposite page*]

recently been resorted to in order to explain the phenomenon discussed here.[3]

A word of caution is perhaps needed in connection with the implications of this analysis. To say that a shift of income from one group of income earners to another may lead to a recession is not at all tantamount to saying that such a shift must be avoided. On the contrary, it may be that adjustments in income shares are an indispensable part of a stabilization effort—obviously so, if the need for stabilization arises from ill-advised incomes policies previously pursued. Nevertheless, an awareness of the recessionary process described is certainly necessary in the planning of stabilization programs.

The following paragraphs outline briefly the theoretical point involved. They also survey the Finnish experience over the years 1948–62 and during the stabilization period 1956–58, in an attempt to show that this experience illustrates the theoretical argument.

I. The Theoretical Point

Stabilization programs are intended to eliminate the causes of inflation. Depending on the circumstances of each case, they may have to arrest inordinate wage increases; put an end to excessive credit expansion; or reduce budget deficits by cutting expenditure, by increasing direct or indirect taxes, by raising the tariffs of state enterprises, or by discontinuing subsidies previously granted. Furthermore, a stabilization effort should correct the distortions introduced by inflation. For example, it may need to include a devaluation in order to bring an overvalued exchange rate down to realistic levels. Some of these policies lead in various degrees to changes in absolute and relative prices. They therefore cause a redistribution of income among classes—highlighted frequently (and this is of interest here) by losses to wage, salary, and pension earners. Such losses may, and often do, occur when consumer prices increase as a result of the

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John Spraos, "Stability in a Closed Economy and in the Foreign Exchange Market, and the Redistributive Effect of Price Changes," *Review of Economic Studies*, Vol. XXIV (1956–57), pp. 161–76.

E. M. Bernstein, "Strategic Factors in Balance of Payments Adjustment," *Staff Papers*, Vol. V (1956–57), p. 159.

[3] Raúl Prebisch, "Economic Development or Monetary Stability: The False Dilemma," *Economic Bulletin for Latin America*, Vol. VI, No. 1, March 1961, pp. 19–20; and Carlos F. Díaz Alejandro, "A Note on the Impact of Devaluation and the Redistributive Effect," *The Journal of Political Economy*, Vol. LXXI (1963), pp. 577–80.

measures mentioned above, while earnings of the classes in question are held down.

One important result of this transfer of real income may be, *ceteris paribus,* a reduction in the consumption and, consequently, the production of domestic goods. A necessary and sufficient condition to produce this result is that the marginal propensity of the losers in the redistribution process to consume domestic goods be larger than the same propensity of the gainers. If, of course, a decrease in the private consumption of domestically produced goods[4] should materialize for the reason explained, the country undertaking the stabilization of its economy would obviously have on its hands the makings of a recession.

Of course, the effects of a decline in home consumption on over-all income levels may be offset by a pickup in private investment, an increase in government expenditure, and an improvement in the balance of payments. There is, however, some presumption that these outcomes will not be realized—at least not in sufficient degree to compensate for the decline in domestic consumption. Private investment is not too likely to rise in the face of the decrease in consumption and the general uncertainty surrounding the fortunes of the stabilization program. The government in most cases will try to cut its real expenditures and its real deficit as part of the stabilization plan itself. Finally, even if the stabilization plan includes a devaluation, it is quite probable that the current account of the balance of payments may not improve, or may improve but little, particularly as the elasticity of supply of export products turns out frequently to be low, in the short run.

II. The Wage Share and Consumption in Finland, 1948-62

The above theoretical points having been explained, the next step is to examine Finland's experience.

To begin, it will be shown, with the help of regression and correlation analysis, that throughout the period 1948–62, for which the relevant data are available, the share of wages and salaries in total national income has been an important determinant of Finnish domestic consumption. The method of study adopted was to consider per capita real total consumption expenditure as a function of real net domestic product (which is approximately the same as national income)

[4] Referred to hereinafter as "domestic consumption," "home consumption," or "consumption."

and the share of real wages in real net domestic product, each one of these three variables being expressed as a percentage of its respective trend (i.e., after adjustment for trend). The results of this statistical treatment were quite convincing. The coefficient of multiple determination (corrected for degrees of freedom) turned out to be 0.895. The regression coefficient for the wage variable was 0.9617 and its standard error 0.1389, a clearly statistically significant result implying that a one percentage point increase in the share-of-wages variable tended to increase consumption by one percentage point, roughly. The partial correlation coefficient (0.895) between per capita consumption and the share variable was also statistically significant.

Since it cannot be assumed that total and domestic consumption move in the same direction and in the same degree, an attempt was made to carry out the same kind of analysis for per capita private real expenditure on domestically produced consumption goods (obtained by deducting imported consumer goods and services from total consumption), although, admittedly, the problem of isolating the domestic component of private consumption could be solved only with some degree of arbitrariness. However, the statistical results were again convincing. To be sure, the coefficient of multiple determination (corrected for degrees of freedom) turned out to be lower this time, i.e., 0.630. But the regression coefficient of the share variable was 1.0370, and its standard error was 0.2470. Moreover, the partial correlation coefficient between the consumption and the share variable was 0.770. Further details of the statistical methods discussed in this and the preceding paragraph may be found in the Appendix.

III. The 1956-58 Stabilization Program

With the support of this statistical evidence that the causal relationship described is in fact at work in the Finnish economy, one may now turn to the experience of that country's stabilization program in 1956–58.

In 1956, Finland encountered serious economic difficulties. Inflationary pressures, which had been building up in the country for some time, became very pronounced. Also, Finland's balance of payments situation deteriorated materially, partly as a result of the progressive overvaluation of its currency and partly as a consequence of adverse developments affecting world markets for its exports.

To re-establish price stability and balance in the country's external accounts, the authorities inaugurated an economic program, the

principal features of which were as follows: (1) a successful effort to hold the line on wages, (2) some degree of credit restraint, entailing principally a rise in interest rates and a reduction in the amount of financing available for housing construction, (3) a devaluation on September 15, 1957, which increased the dollar rate from Fmk 2.3 to Fmk 3.2, (4) simultaneously with this devaluation, an extensive liberalization of imports, and (5) a levy on exports. The last-mentioned was intended not only to provide relief to the budget, but also to retard the increase in export costs and prices, which had to follow eventually from the devaluation, but which—if the full increase had been allowed immediately—might have threatened to undermine the success of the stabilization plan. In particular, it was feared that, without this levy, exporters would have reaped windfall profits from the devaluation, and that, owing to their strong bargaining position, the trade unions would have been able to share these profits within a short period with the owners of the export industries. This would have meant, it was felt, a rapid general rise in incomes, costs, and prices, which could possibly have outstripped the margins created by the devaluation, and would in any event have weakened the balance of payments by bringing about an increase in imports.

At the same time that this economic program was introduced, the Finnish Government increased substantially its expenditures, because existing legislation required the administration actively to counteract the recessionary tendencies which developed.

Developments in respect of wages, consumption, and income during the course of the stabilization program may be summarized briefly as follows. After the substantial increases granted to wage and salary earners toward the end of March 1956, the Government succeeded, as indicated above, in containing wages and salaries despite the continued rise in the cost of living. Therefore, real wages (Table 1) and the wage and salary share of the national income, after rising sharply in the second quarter of 1956, declined significantly thereafter.[5] This decline came to an end in the second quarter of 1958, following the wage and salary adjustments made in April of that year.

These movements in real wages and income shares were bound, if the thesis of the present study is correct, to affect domestic consumption. It is true that the relevant data on production and national income (included in Table 1) for the period from January through June 1956 are distorted by an important random factor, the 19-day general strike in March 1956. Nevertheless, consistently with the

[5] Unfortunately, it is not possible to measure the changes in the income share of wages and salaries in the period here discussed, because figures on wage and salary payments are not available on a quarterly basis.

TABLE 1. FINLAND: QUARTERLY INDICES OF REAL HOURLY WAGES, PRODUCTION OF CONSUMER GOODS, AND REAL NET DOMESTIC PRODUCT, 1955–59

	Real Hourly Wages[1] (*1953 = 100*)	Production of Consumer Goods[2] (*1954 = 100*)	Real Net Domestic Product[2] (*1954 = 100*)
1955			
I	109	108	103
II	111	109	106
III	112	117	108
IV	111	118	108
1956			
I	106	102	99
II	115	125	113
III	113	126	110
IV	109	127	110
1957			
I	106	124	113
II	106	119	109
III	105	114	108
IV	103	110	106
1958			
I	101	112	112
II	104	109	106
III	105	112	107
IV	104	117	109
1959			
I	106	114	112
II	108	123	115
III	109	125	116
IV	107	126	119

Sources: International Monetary Fund, *International Financial Statistics*, and Central Statistical Office of Finland, *Bulletin of Statistics*.

[1] Index of hourly wages deflated by the cost of living index. The consumer price index would have been perhaps a more appropriate index for this purpose. Unfortunately, it is not available on a quarterly basis for the years prior to 1957.

[2] Seasonally adjusted by the method described in the Appendix.

hypothesis, domestic consumption (measured by the seasonally adjusted index of industrial production of consumer goods,[6] the best existing quarterly measure for this purpose) seems to have risen appreciably in the second quarter of 1956. On the other hand, in an apparent but not real contradiction to the hypothesis here advanced, domestic consumption continued increasing at a slow rate in the third

[6] For the method used to make this seasonal adjustment, see Appendix (p. 442).

and fourth quarters of 1956, probably because the multiplier effects of its initial (second quarter) rise offset the dampening influence of wage developments. Eventually, however, home consumption turned down, beginning in the first quarter of 1957. Interestingly, it swung up again only in the third quarter of 1958, i.e., with a lag of about two months after the upturn of real wages noted in the preceding paragraph.

The above extensive changes in domestic consumption were bound to affect income materially. In point of fact (and this is really more than sufficient to support the present argument), they can by themselves account for the recession which started in the second quarter of 1957 and lasted through the second quarter of 1958, as shown in Table 1. This table shows that the decline in domestic consumption in the six quarters ended in June 1958 amounted to about 14.2 per cent. Since domestic consumption can be estimated as being somewhere in the range of 40–50 per cent of gross national product (GNP),[7] the 14.2 per cent decline of this component of total expenditure meant a decrease in incomes of the order of 5.7–7.1 per cent. No quarterly figures are available for GNP or gross domestic product, but Table 1 shows that the decrease in the seasonally adjusted real net domestic product was about 6.2 per cent during the five quarters when it was falling.[8]

A brief survey of the behavior of the three other components of GNP confirms the impression that the 1957–58 recession was due primarily to the drop in home consumption, brought about as explained above. Thus, private investment appears to have moved down, and eventually up, simultaneously with (or to have lagged by at most a quarter behind) domestic consumption (compare Tables 1 and 2). This suggests that changes in domestic consumption may well have been a causal factor in the fluctuations in private investment, a possibility which is certainly in line with what theoretical considerations would lead one to expect, and which adds strength to the central thesis of this paper. It should be conceded, however, that the dip in private investment during the recession may have been aggravated by the credit measures of the stabilization program (noted

[7] In 1956, 1957, and 1958, GNP at current prices was Fmk 10.3 billion, Fmk 11.1 billion, and Fmk 11.8 billion, respectively. According to the calculations explained in detail in the Appendix, domestic consumption at current prices amounted to Fmk 5.0 billion, Fmk 5.3 billion, and Fmk 5.6 billion.

[8] The conclusion that the fall in domestic consumption fully accounts for the amplitude of the recession is also borne out by the available annual figures. Specifically, in 1956, 1957, and 1958, the index of real gross domestic product (1948=100) was 114, 114, and 112, respectively. The index of domestic consumption (1948=100), calculated as explained in the Appendix, amounted to 110, 107, and 103, respectively.

TABLE 2. FINLAND: QUARTERLY INDICES OF GOVERNMENT EXPENDITURE, PRIVATE INVESTMENT, EXPORTS, AND IMPORTS, 1955–59

(*1954 = 100*)

	Government Expenditure in Real Terms	Private Investment in Real Terms[1]	Volume of Exports	Volume of Imports
1955				
I	104	119	109	113
II	105	117	108	135
III	105	103	117	116
IV	106	122	102	104
1956				
I	107	100	88	118
II	107	122	116	148
III	108	111	112	135
IV	108	133	106	112
1957				
I	113	133	131	155
II	113	115	119	126
III	114	105	112	109
IV	115	121	108	108
1958				
I	116	119	124	124
II	118	108	112	119
III	118	96	116	98
IV	119	114	111	103
1959				
I	124	113	134	135
II	124	115	141	140
III	125	107	126	121
IV	126	129	127	133

Source: Central Statistical Office of Finland, *Bulletin of Statistics*.
[1] Index of industrial production of investment goods.

above) as well as by the discouraging effect of the difficulties encountered by exports in 1956—difficulties caused in part by the general strike. Second, the government sector does not appear to have exercised a significant contractionary influence on the economy. It is true that, during the recession, a reduction in the public sector's deficit seems to have been achieved.[9] However, the restrictive effect

[9] Central budget revenues in 1956, 1957, and 1958 amounted to Fmk 2.51 billion, Fmk 2.84 billion, and Fmk 2.99 billion, respectively, and central budget expenditures to Fmk 2.62 billion, Fmk 2.84 billion, and Fmk 2.95 billion, leaving a deficit of Fmk 0.11 billion in 1956, a balanced budget in 1957, and a surplus of Fmk 0.04 billion in 1958.

of this reduction was probably offset in large measure by the manner in which it was brought about. The reduction, it should be noted, reflected a rise in both revenues and expenditure, the former resulting partly from the export levy and the latter from an accelerated public works program to provide relief to the unemployed. Thus—at least to the extent that receipts and outlays were increased equally—a balanced-budget-multiplier type of effect made itself felt. Moreover, insofar as there was a transfer of purchasing power from those who would have realized windfall profits from the devaluation to those who would have become jobless in the absence of the step-up in government expenditure, the community's propensity to spend must have been increased. Third, exports recovered after 1956, and imports —beginning in the second quarter of 1957—declined materially, so that the improvement in the current account of the payments balance became an expansionary element in the economic picture (Table 2).

APPENDIX

Method of analysis

The study covers 1948–62, the period for which data are available. It eliminates trend from the variables concerned and proceeds to correlate the values of the variables expressed as percentages of their respective trends.

In the preparatory stage of the study, a number of variables and equations were tried. Specifically, data for aggregate consumption, as well as per capita consumption, were used as a dependent variable. Also, the actual data and quarterly percentage changes in them were used, as well as the data from which the trend had been removed. The results obtained pointed always in the same direction. They were discarded, however, either in order to avoid unnecessary duplication or because they were not, in some cases, statistically significant.

Seasonal adjustment

The seasonal adjustment of the series for real net domestic product and for the index of industrial production of consumer goods involved the following six steps: (1) Four-period moving average values were computed; (2) the original data were divided by these values; (3) the highest and lowest of these quotients for each quarter were discarded; (4) the remaining quotients were averaged; (5) the four quarterly

index numbers thus obtained were adjusted in order to add to 400, and provide seasonal indices; and (6) the original data were divided by these indices. The seasonal indices used are as follows:

Quarter	*Net domestic product in real terms*	*Index of production of consumer goods*
I	103.5	100.4
II	96.4	103.0
III	98.5	95.5
IV	101.6	101.0

TABLE 3. FINLAND: VARIABLES USED FOR REGRESSION AND CORRELATION ANALYSIS

(*1948 = 100*)

Year	Real Net Domestic Product[1]	Share of Wages and Salaries in National Income[2]	Total Real Private Consumption Per Capita[3]	Total Real Domestic Consumption Per Capita[4]
1949	105.0	99.0	95.7	99.2
1950	111.0	100.9	104.6	107.0
1951	122.0	104.9	113.9	110.8
1952	121.0	106.6	116.4	111.3
1953	123.0	104.1	112.7	119.0
1954	135.0	105.9	121.8	125.9
1955	143.1	111.9	132.6	133.6
1956	145.8	112.8	134.6	134.8
1957	147.2	107.8	129.7	129.4
1958	147.2	105.9	125.1	125.2
1959	156.6	106.8	132.0	129.9
1960	170.1	106.8	141.2	136.0
1961	182.2	108.3	151.1	144.1
1962	187.6	109.0	154.5	149.1

[1] From Central Statistical Office of Finland, *Bulletin of Statistics*.

[2] Obtained by dividing the index of real wages and salaries given in the *Bulletin of Statistics* by the index of real net domestic product given in the preceding column.

[3] Calculated by deflating the data for total private consumption given in International Monetary Fund, *International Financial Statistics* by the index of consumer prices given in the *Bulletin of Statistics*, the quotient being divided by an index of the population on December 31 of the years surveyed.

[4] Calculated by deducting from the data for total private consumption (see note 3) the value of imported goods and services, i.e., (a) travel expenditures abroad and "other services" as given in International Monetary Fund, *Balance of Payments Yearbook*, (b) imports of consumer goods given in the *Bulletin of Statistics*, and (c) a proportion of the totals for "raw materials and production supplies" and "fuel and oils," given in the *Bulletin of Statistics*, equal to the proportion of total private consumption in gross national product. The figure thus found for private domestic consumption was divided by the consumer price index and the index of population.

La récession dans la phase initiale d'un programme de stabilisation: l'expérience de la Finlande

Résumé

Cet article cherche à mettre en lumière un facteur conduisant à des récessions dans la phase initiale d'un programme de stabilisation et à illustrer la façon dont ce facteur a agi en Finlande.

Il soutient que certaines mesures ayant souvent leur place dans un effort de stabilisation—telles que la dévaluation, la pause des salaires et la réduction du déficit budgétaire par une augmentation des impôts indirects et/ou l'élimination des subsides—produisent une redistribution du revenu entre les classes, fréquemment marquée par des pertes pour les salariés et pensionnés. Si la propension marginale à consommer des produits nationaux est plus grande parmi ces classes que pour le reste de la collectivité économique, la production de ces produits diminue, ce qui, toutes choses étant égales par ailleurs, entraîne une baisse de l'activité commerciale.

En Finlande, au cours de la période 1948-1962, la part que représentaient les salaires dans le revenu national constituait en fait un important élément déterminant de la consommation totale du secteur privé et de sa consommation de produits nationaux. Cette constatation ressort de la comparaison de la consommation totale par habitant et de la consommation de produits nationaux par habitant en termes réels avec: a) le produit national net à des prix constants, et b) la part représentée par les salaires réels dans le produit national net réel.

L'article estime que certains des éléments principaux du plan de stabilisation finlandais de 1956-58, tels la discipline des salaires et la dévaluation (avec l'inflation simultanée et continue due en partie à l'obligation légale de lutter contre la récession) ont réduit le revenu réel des salariés et ont ainsi fait baisser, en dernière analyse, la consommation de produits nationaux. L'auteur émet l'hypothèse que cet effet, à son tour, fut à l'origine de la récession qui dura du second trimestre de 1957 à la fin du deuxième trimestre de 1958. Cette diminution de la consommation de produits nationaux—même si l'on ne tient pas compte de ses conséquences indirectes sur les investissements—peut entièrement expliquer la récession, puisqu'elle a été, en gros, égale au déclin du produit national brut pendant la récession.

Retroceso en la fase inicial de un programa de estabilización: la experiencia de Finlandia

Resumen

Este artículo intenta determinar con exactitud un factor que origina retrocesos en la fase inicial de los programas de estabilización, y explicar el comportamiento de este factor en Finlandia.

Se aduce que algunas de las medidas que a menudo debe incluir un intento de estabilización—tales como la devaluación, una pausa en los salarios, y la reducción del déficit presupuestario mediante el aumento de los impuestos directos y la supresión de los subsidios—determinan una redistribución de los ingresos entre las clases, frecuentemente caracterizada por pérdidas de parte de quienes perciben jornales, salarios, y pensiones. Si la propensión marginal a consumir artículos producidos en el país es mayor en el caso de estas clases que en el del resto de la colectividad económica, la producción de dichos artículos disminuye, lo cual, siempre que todo lo demás permanezca igual, entraña un descenso en la actividad económica.

En Finlandia, a lo largo del período 1948-62, la proporción de los jornales y salarios en el ingreso nacional, fue, de hecho, un importante factor determinante del consumo total del sector privado y de su consumo de artículos producidos en el país. Hallóse esto estableciendo la correlación entre el consumo total *per capita* y el consumo interno *per capita* en términos reales, por una parte, y, (a) el producto interno neto a precios constantes y (b) la participación de los jornales y salarios reales en el producto interno neto real, por otra. El artículo expresa que algunos de los aspectos principales del plan finlandés de estabilización de 1956-58, es decir, la limitación de los salarios y la devaluación (conjuntamente con la continuada inflación concurrente, motivada en parte por la obligación legal de contrarrestar el retroceso), redujeron el ingreso real de las clases jornaleras y asalariadas, y por ello, con el tiempo, disminuyó el consumo interno. Se sugiere que esto último, a su vez, inició el retroceso que duró desde el segundo trimestre de 1957 hasta finalizar el segundo trimestre de 1958. Esta baja del consumo interno—aun cuando se prescinda de sus efectos indirectos sobre las inversiones—puede haber sido justamente el motivo del retroceso, dado que fue más o menos igual a la declinación del producto nacional bruto durante dicho retroceso.