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GOOD BUSINESS CYCLE FORECASTS
- A MUST FOR STABILIZATION POLICIES

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GOOD BUSINESS CYCLE FORECASTS - A MUST FOR STABILIZATION POLICIES¹⁾

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Abstract. Macroeconomic stabilization policies imply expansionary budgets in recessions and contractive fiscal policy when the economy gets overheated. This strategy has been criticized both from a theoretical and a practical point of view. Theorists claim that efforts to stabilize have only adverse effects and that the budget should be neutral. Practitioners say forecasts are too inaccurate. Data from Sweden and Finland compare accuracy of government forecasts with fiscal policy, as intended *ex ante* and as it eventually worked out.

Keywords: Fiscal stabilization, business cycle forecasts.

1 Introduction

Since the Great Depression in the beginning of the 1930's, central government and the central bank have been expected to counteract business cycles. The theory behind what has been named "stabilization policies" was developed by John Maynard Keynes and the Stockholm School, cf. Lindbeck (1975). The main points of this theory was for the central bank to issue more money in a recession and less in a boom and for central government to spend more in a recession than in a boom. This paper is about the latter pair of policies, called *fiscal* as opposed to *monetary* policy.

In this study, less will be asked about how to make forecasts and more about why they are *important*. One of the reasons for choosing Sweden and Finland for the case study is that both governments declare adherence to Keynesian fiscal policies, in spite of heavy criticism from the neoclassical school that claims only adverse effects (inflation, crowding out) from stabilization. Also, more practically oriented people fear that forecasts are so inaccurate that stabilizing over the central government budget is next to impossible. The theoretical question will not be discussed here. Instead we shall look into the latter criticism.

The pragmatic view taken here is to compare government forecasts and indicators of assumed budgetary stabilization effects - the data the government has at its disposal when deciding about its fiscal policy. This *ex ante* comparison shows if the two governments have had sincere intentions to implement fiscal stabilization.

Next, we compare actual production with the forecasts to find out if the accuracy is good enough to make the right decisions. Note, however, that

1) This research was financed by the *National Institute of Economic Research*, Stockholm, Sweden. Support from the *Finnish Society of Sciences and Letters* is also kindly acknowledged. This is a stylized summary of a paper published in Swedish, cf. Öller (1991).

forecasting accuracy is crucial for any systematic fiscal policy, be it stabilizing or neutral.

The third comparison concerns the fiscal effect, *ex post*, as reported by the governments, and actual production. This shows if intentions to stabilize have worked out. If not, the reason can be either inconsistent policies or bad forecasts, or both.

The last question asked is if elections have had an effect on government spending.

2 Swedish policy

In March each year the Swedish government publishes the forecast of GDP connected with the budget proposal for the fiscal year, starting 1 July. All figures have been transformed so as to apply to a calendar year. The budget's effect on economic growth is also given, assuming that the Keynesian theory applies, cf. Hansen et al. (1969). Indicators are calculated both *ex ante* for the coming budgetary period and *ex post* for the preceding year. The first indicator can be compared to the growth forecast to show the intention of the government, the latter to materialized growth to find out if stabilization worked out as intended, assuming that fiscal policy can only cushion business cycles - not revert them.

Exhibit 4 shows the figures of forecasted GDP (GDP_f), actual GDP, planned (pF) and actual fiscal effect (F). Exhibits 1 - 3 present these data graphically in a form that corresponds to the questions asked in the introduction. The two curves in Exh. 1 should be each others mirror images if the government has an intention to stabilize. This is the case during the 80's but hardly for the 70's. Note, that the Swedish fiscal indicator shows both the *automatic* stabilizing effect, due to progressive taxes, and the *discretionary* effect of new actions by the government. This means that with a heavy government sector, discretionary policy measures must often have been pro-cyclical in the 70's.

Did the Swedish government have a chance to take the right action, i. e. was the forecasting accuracy sufficient? Exh. 2 shows that most of the time, also in the 70's the accuracy has been quite good, and not an obstacle for policy.

Looking at Exh. 3 one sees that intentions have by and large come true. As a whole the budget has been stabilizing in the Keynesian sense in the 80's, and if the automatic stabilizers aren't completely dominating, a good guess is that the discretionary measures haven't been pro-cyclical. Some characteristics of the Swedish data are shown in Exh. 5. Looking first at the means, we see that the forecast and the actual series have almost the same mean. There is a small bias of overestimation which, according to Exh. 2, happened in the 70's.

In the long run the budget has to balance and so has the indicator. This is the case, although the planned effect has a positive (expansionary) bias. The standard deviations are smaller for forecasts and plans than for materialized values which proves cautious behavior.

Exhibit 1. PLANNED POLICY EFFECT (V) AND GDP FORECAST (- - -): SWEDEN

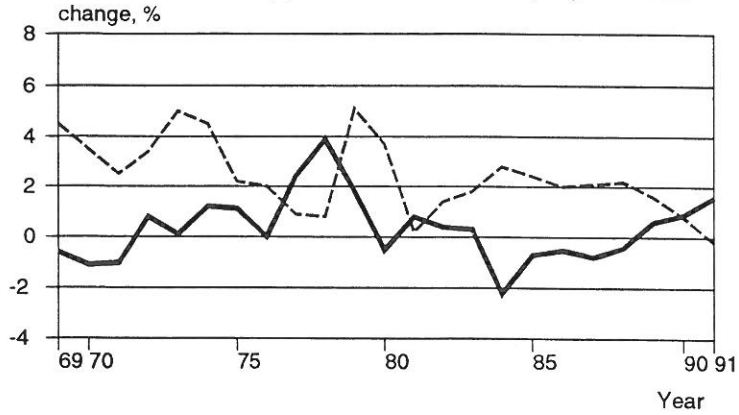


Exhibit 2. GDP (V) AND ITS FORECAST (- - -): SWEDEN

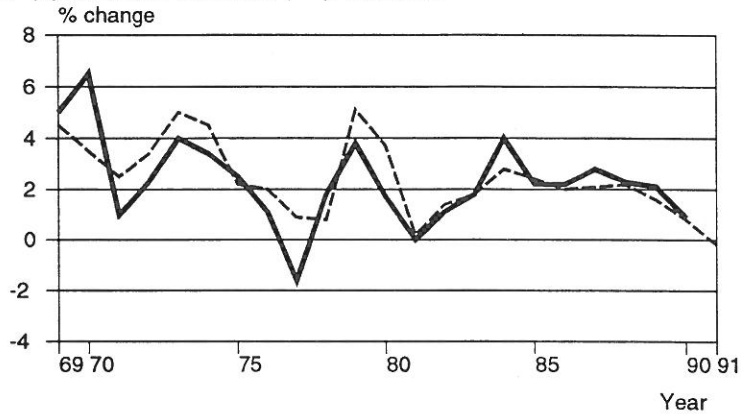
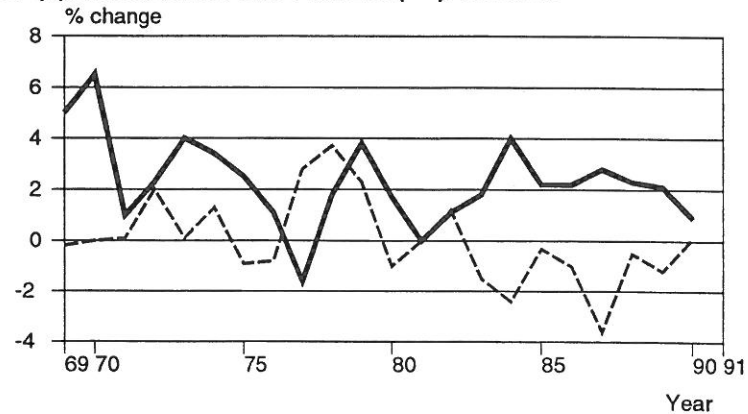


Exhibit 3. GDP (V) AND ACTUAL POLICY EFFECT (- - -): SWEDEN



**Exhibit 4. GDP FORECAST (GDPf), ACTUAL GDP,
PLANNED (pF) AND ACTUAL FISCAL EFFECT (F): SWEDEN**

4

p. c. change

<i>Year</i>	<i>GDPf</i>	<i>GDP</i>	<i>pF</i>	<i>F</i>
1969	4.5	5.0	-0.6	-0.2
1970*	3.5	6.5	-1.1	0.0
1971	2.5	1.0	-1.0	0.1
1972	3.4	2.3	0.8	2.0
1973*	5.0	4.0	0.1	0.1
1974	4.5	3.4	1.2	1.3
1975	2.2	2.5	1.1	-0.9
1976*	2.0	1.1	0.0	-0.8
1977	0.9	-1.6	2.4	2.8
1978	0.8	1.8	3.9	3.7
1979*	5.1	3.8	1.8	2.3
1980	3.7	1.7	-0.5	-1.0
1981	0.2	0.0	0.8	0.0
1982*	1.4	1.1	0.4	1.2
1983	1.8	1.8	0.3	-1.5
1984	2.8	4.0	-2.2	-2.4
1985*	2.4	2.2	-0.7	-0.3
1986	2.0	2.2	-0.5	-1.0
1987	2.1	2.8	-0.8	-3.6
1988*	2.2	2.3	-0.4	-0.5
1989	1.6	2.1	0.6	-1.2
1990	0.8	0.9	0.9	0.1
1991*	-0.2		1.6	

*) Election year

Explanations: GDPf = GDP forecast, GDP = materialized GDP, pF = planned fiscal effect, F = materialized fiscal effect.

Source: Reviderad finansplan (1968-1991).

**Exhibit 5. CHARACTERISTICS OF SWEDEN
1969-1990**

<i>Variable</i>	<i>Mean</i>	<i>Std.</i>
<i>GDPf</i>	2.52	1.40
<i>GDP</i>	2.31	1.72
<i>pF</i>	0.30	1.32
<i>F</i>	0.01	1.69

Correlations

	<i>GDPf</i>	<i>GDP</i>	<i>pF</i>	<i>F</i>
<i>GDPf</i>	1.00			
<i>GDP</i>	0.72	1.00		
<i>pF</i>	-0.26	-0.41	1.00	
<i>F</i>	0.02	-0.22	0.77	1.00

Correlations 1980-1990

	<i>GDPf</i>	<i>GDP</i>	<i>pF</i>	<i>F</i>
<i>GDPf</i>	1.00			
<i>GDP</i>	0.68	1.00		
<i>pF</i>	-0.73	-0.88	1.00	
<i>F</i>	-0.43	-0.71	0.60	1.00

The middle part of Exh. 5 shows how the four variables correlate. Intentions are reflected in the correlation between planned fiscal effect (pF) and the GDP forecast ($GDPf$). The value (-0.26) would not be significant in a statistical test. The *ex post* effect (F and GDP) is even lower. However, the forecasting accuracy is good; the correlation between forecasted and actual GDP is 0.72.

The lack of stabilization policies in the 70's becomes obvious in the lowest part of the table. In the 1980's stabilization intentions have been strong (-0.73) and accurate forecasts (0.68) and consistent policies have resulted in stabilizing policy also *ex post* (-0.71).

3 Finland

The same figures for Finland are presented in Exhibits 6-10. One first notices that figures on fiscal effects are available for a much shorter period than in Sweden. On the other hand, the Finnish indicator reflects only *discretionary* measures, and these are more important than in Sweden because of a considerably smaller public sector. Exh. 6 shows that there has been intention toward fiscal stabilization.

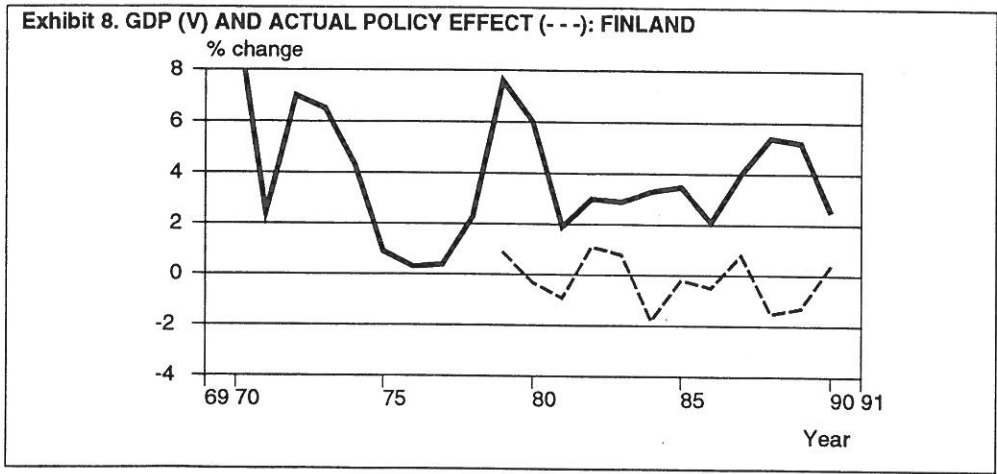
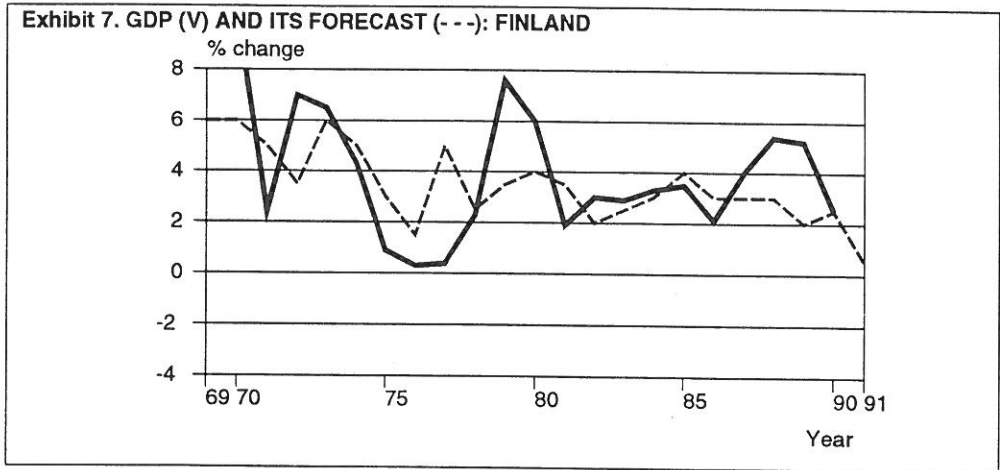
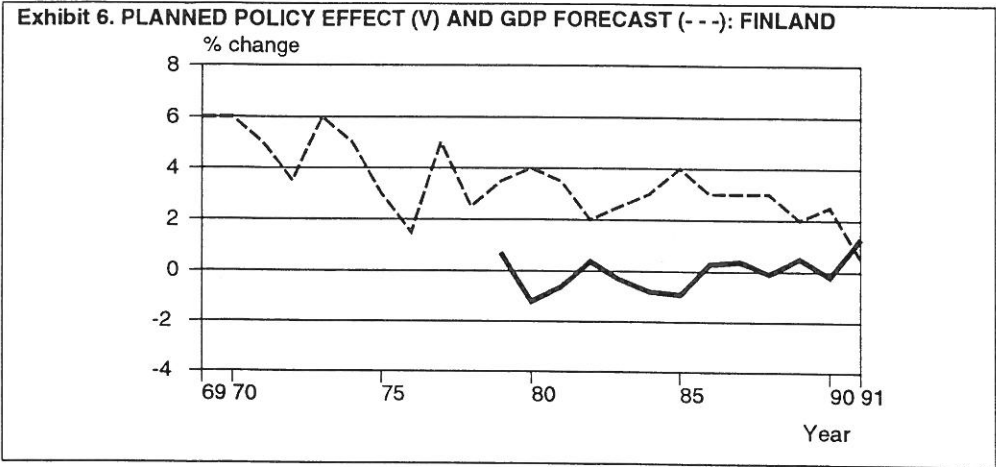
The forecasting accuracy is disastrous, cf. Exh. 7. All the sharp upturns have been missed and there are several false alarms. This has had an effect on the end result - not much stabilization is left in Exh. 8. However, in many cases bad forecasts are not the sole culprits. For 1979 growth was predicted to accelerate, not nearly as much (the highest growth figure in the industrialized world at that time) as it did, but still. The budget was intentionally made expansionary, and this effect subsequently increased. The policy of 1981 failed in the same way, but now the economy was going into a recession, etc.

Exhibit 10 summarizes policies in Finland. Poor forecasting is reflected in a substantial bias as well as in standard deviations of forecasts that are so low as compared to what materialized, as to contain very little information whatsoever. The policy variables cover a very short period and hence are not commented on here.

Stabilizing intentions are again shown in the high negative correlation between forecasted GDP ($GDPf$) and planned policy (pF). Yet, no effect is achieved, as proven by the absence of correlation between GDP and policy effect (F), *ex post*.

4 Discussion

Since in both cases there have been other variations in the fiscal indicators than what could be explained by stabilization, it would be interesting to know if there is some other systematic feature in fiscal policy. Political



**Exhibit 9. GDP FORECAST (GDPf), ACTUAL GDP,
PLANNED (pF) AND ACTUAL FISCAL EFFECT (F): FINLAND**

p. c. change

<i>Year</i>	<i>GDPf</i>	<i>GDP</i>	<i>pF</i>	<i>F</i>
1969	6.0	8.3	-	-
1970	6.0	10.3	-	-
1971	5.0	2.4	-	-
1972	3.5	7.0	-	-
1973	6.0	6.5	-	-
1974	5.0	4.3	-	-
1975	3.0	0.9	-	-
1976	1.5	0.3	-	-
1977	5.0	0.4	-	-
1978	2.5	2.3	-	-
1979*	3.5	7.6	0.7	0.9
1980	4.0	6.0	-1.2	-0.3
1981	3.5	1.9	-0.6	-0.9
1982	2.0	3.0	0.4	1.1
1983*	2.5	2.9	-0.3	0.8
1984	3.0	3.3	-0.8	-1.8
1985	4.0	3.5	-0.9	-0.2
1986	3.0	2.1	0.3	-0.5
1987*	3.0	4.0	0.4	0.8
1988	3.0	5.4	-0.1	-1.5
1989	2.0	5.2	0.5	-1.3
1990	2.5	2.5	-0.2	0.4
1991*	0.5	-	1.3	-

*) Election year

*Explanations: GDPf = GDP forecast, GDP = materialized GDP,
pF = planned fiscal effect, F = materialized fiscal effect.*

Source: Economic Survey (1979-1990).

**Exhibit 10. CHARACTERISTICS OF FINLAND
1979-1990**

<i>Variable</i>	<i>Mean</i>	<i>Std.</i>
<i>GDPf</i>	3.00	0.67
<i>GDP</i>	3.95	1.75
<i>pF</i>	-0.15	0.62
<i>F</i>	-0.21	1.01

Correlations

	<i>GDPf</i>	<i>GDP</i>	<i>pF</i>	<i>F</i>
<i>GDPf</i>	1.00			
<i>GDP</i>	0.26	1.00		
<i>pF</i>	-0.58	0.20	1.00	
<i>F</i>	-0.12	0.02	0.37	1.00

considerations, such as an urge to please voters in an election year, may have had an influence on the design of the budget. Such "political cycles" have been analyzed by many writers, cf. eg. Nordhaus (1975) and Paldam (1979). However, it may not be so easy to affect the whole economy through fiscal policy and to give it the right timing. A much simpler task is to increase government spending where key voters are likely to notice it. Hence, one would expect an expansionary fiscal policy during an election year, cf. Tufte (1978) and Alesina (1988).

There is no such systematic feature in the Swedish data of Exh. 4. For 1979 accelerating growth was forecasted and still the budget was expansionary, both *ex ante* and *ex post*. This is the only case where opportunistic behavior could be suspected.

The strange behavior in the Finnish data 1979, mentioned above, could also be explained as "political", all the more so since the fiscal indicator is systematically positive for all election years (Exh. 9). Looking for other explanations to changes in fiscal policy than stabilization, one can't exclude an electoral cycle in Finland. This was already reported in Öller (1987).

As to the fiscal impact shown by the indicators used, two things can be mentioned. First, the fact that the Swedish indicator is designed to measure the *total* effect, as compared to just the discretionary effect in the case of Finland, makes a great difference. High tax societies with formidable welfare protection will have very strong anti-cyclical automatic effects. In a deep recession this can force governments to compensating, i.e. procyclical discretionary measures, in order to avoid intolerable budget deficits. The latter is in fact a simple but still accurate measure of fiscal impact, cf. Myhrman and Willman (1991).

One of the aims of this note is to show the importance of high quality standards in forecasting. A technique that is so poor as to make any effort toward a consistent economic policy next to useless can have a demoralizing effect. No matter if you want to stabilize or keep the budget neutral you must have fairly reliable forecasts. Poor macroeconomic forecasts may have an even larger negative effect. Widely publicized forecasts may affect the economic expectations of firms and individuals, cf. Peel et al. (1986).

References

Alesina, A. (1988): *Macroeconomics and Politics*, in *NBER Macroeconomic Annual*, M.I.T. Press, 13-52.

Economic Survey (1979-1990), Ministry of Finance, Helsinki, Finland

Hansen, B. and W. Snyder (1969): *Fiscal Policy in Seven Countries 1955-1965*, OECD, Paris.

Lindbeck, A. (1975): *Swedish Economic Policy*, The McMillan Press Ltd., London and Basingstoke.

Myhrman, R. and A. Willman (1991): Measuring the Stabilizing Effect of the Budget (in Swedish), *Journal of the Economic Society of Finland* 44, 143-163.

Nordhaus, W. (1975): The Political Business Cycle, *Review of Economic Studies* 42, 169-190.

Öller, L.-E. (1987): Stabilization Policy and Forecasts (in Swedish, English translation available), *The Journal of the Economic Society of Finland* (41)2, 23-27.

- " - (1991): Stabilization in Sweden and Finland - Intentions and Abilities (in Swedish), *Konjunkturläget*, May, National Institute of Economic Research, Stockholm, Sweden.

Peel, D.A., Walters, K and P.F. Pope (1986): Public Forecasts and Their Impact on Expectation Formation, *Economic Modelling* 3, 126-128.

Paldam, M. (1979): Is there an Electional Cycle? A Comparative Study of National Accounts, *Scandinavian Journal of Economics*, 323-342.

Reviderad finansplan (1968-1991), Ministry of Finance, Stockholm, Sweden.

Tufte, E. (1978): *Political Control of the Economy*, Princeton University Press, Princeton, NJ, USA.

RESUME ¹

Denna artikel är inte avsedd som något nytt inlägg i debatten om stabilisering såsom möjlig eller omöjlig. Dess syfte är endast att utröna om regeringarna i Sverige och Finland kan påvisas ha fört en kontracyklisk politik. Här är det två saker som intresserar: har budgeten avstämts kontracykliskt med hänsyn till den BNP-prognos man haft till sitt förfogande, och om så förhåller sig, har politiken varit kontracyklisk även ex post? Budgetens verkan på produktionen tas som given och mätes såsom regeringarna själva sagt sig vilja mäta denna effekt. Analysen berör enbart statens budgetpolitik, som studeras som ett aggregat.

Budgeten är en handlingsplan. Skall man relatera den till hela ekonomin måste man ha prognoser över den tid budgeten berör. Ett praktiskt villkor för stabiliseringspolitik är alltså prognoser av såpass stor noggrannhet, att budgeten rimligen kunde ha avstämts kontracykliskt.

Sverige verkar att ha fört en kontracyklisk budgetpolitik på 1980-talet, men knappast på 1970-talet. Osäkerheten i bedömningen beror på att det för Sverige inte föreligger budgetindikatorer av modernt slag, som skulle skilja på automatiska och diskretionära effekter. Behovet av sådana indikatorer framkom tydligt i denna studie. Senare har sådana även framtagits, men finns ännu inte publicerade.

Prognosnoggrannheten har varit tillfredsställande i Sverige. Detta betyder självfallet inte att det inte skulle finnas utrymme för ytterligare förbättringar. När det gällt stora omslag i konjunkturen har prognoserna varken alltid träffat prick tidsmässigt eller antytt rätta storleksgraden i omsvängningen. I Finland har det funnits intentioner till stabilisering, men man har inte lyckats ex post, bl.a. beroende på svaga prognoser.

Det verkar att finnas en politisk cykel i finländska budgetpolitik, men ej i svensk, med undantag möjligen för år 1979.

¹Uppsatsen skrevs ursprungligen på svenska och finns publicerad i något vidlyftigare omfång i Konjunkturläget, maj 1991.

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