Disinflation — The Swiss Experience 1973 – 1983

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During the past ten years, the Swiss National Bank has followed a comparatively strict policy of money stock control aimed at controlling the rate of inflation. It is the purpose of this paper to review and interpret the experience of the Swiss economy with this policy pursued by its monetary authorities. The Swiss experience provides one example to judge the weight of the costs of a disinflation policy.

1. Introduction

During the past ten years, the Swiss National Bank (SNB) has followed a comparatively strict policy of money stock control aimed at controlling the rate of inflation. It goes without saying that the transition to flexible exchange rates in January 1973 was of crucial importance for this policy of the SNB. Only after this fundamental change in monetary regime, the SNB had the freedom to pursue an independent monetary policy and thus an independent policy of inflation control. Prior to 1973, the commitment to maintain a fixed parity of the Swiss franc vis-a-vis other currencies had made this impossible, given the inflationary policies prevalent abroad, resulting in high rates of monetary growth and inflation comparable to those abroad. The opportunity for a more independent money stock and inflation policy created by the transition to flexible rates in 1973 was decidedly used by the SNB. This was not too surprising, given that there was a broad consensus in favor of such a policy of inflation control in Switzerland at the time and that Switzerland had experienced virtually no unemployment problems during the entire post-war period up to that time.

The monetary policy pursued by the SNB since then can be roughly divided into two phases. The first of these encompasses the years 1973 to 1978 and was characterized by an active policy of disinflation, i.e. by an attempt to lower monetary growth and thus inflation rates from the high initial levels inherited from the fixed exchange rate period to levels more consistent with price level stability. The second phase, on the other hand, includes the years after 1978 and was characterized by the effort to preserve what had been achieved in the meantime, namely the price level stability which had more or less been restored by

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Table 1

Rates of Growth of Money — percentage changes vis-a-vis preceding year[a]

	Adjusted Central Bank Money	M 1
1971	28.7	16.4
1972	18.7	17.9
1973	— 4.4	2.3
1974	4.4	0.1
1975	6.8	4.3
1976	3.0	7.7
1977	3.5	5.4
1978	16.7	16.3
1979	6.8	9.0
1980	— 7.0	— 9.0
1981	— 0.5	— 3.5
1982	2.6	3.0
1983[b]	5.0	

a) Yearly averages of the monthly year-to-year growth rates.

b) First two quarters only.

Source: Monatsberichte der Schweizerischen Nationalbank.

Table 2

Consumer Prices — percentage changes vis-a-vis preceding year[a]

1971	6.9
1972	7.7
1973	9.0
1974	10.0
1975	6.6
1976	2.2
1977	1.2
1978	0.6
1979	4.4
1980	4.5
1981	6.6
1982	5.6
June 82 - June 83	2.8

a) Yearly averages of the monthly year-to-year growth rates.

Source: Langfristige Reihen der Nationalen Buchhaltung der Schweiz und Wirtschaftsspiegel, Bundesamt für Statistik, 1983.

1977/78, in view of various types of external disturbances, most notably exchange rate fluctuations and supply shocks.

It is the purpose of this paper to review and interpret the experience of the Swiss economy with this policy pursued by its monetary authorities. We begin in section 2 with a brief review of the entire period under discussion. For a first impression of the major developments in the Swiss economy during this period, see tables 1 to 7. Subsequently, the two subperiods mentioned above and the main types of problems associated with them will be considered separately in some more detail in sections 3 and 4.

2. The Swiss Economy 1973 - 83: A Brief Overview

After 1973, the SNB immediately shifted to a sharply restrictive policy. The rates of growth of the monetary base ("adjusted central

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Table 3

Rates of Interest[a)]

	Three Month Depots	Eurofrancs (3 months)	Federal Bonds
1971	3.2		5.3
1972	1.8		5.0
1973	4.0		5.6
1974	6.0	10.2	7.1
1975	3.5	4.1	6.5
1976	1.2	1.5	5.0
1977	2.1	2.6	4.1
1978	0.6	0.7	3.4
1979	1.3	1.8	3.4
1980	5.0	5.7	4.7
1981	8.2	9.1	5.6
1982	4.4	4.9	4.8

a) Yearly averages.

Source: Monatsberichte der Schweizerischen Nationalbank.

bank money") and of the money stock M_1 were drastically lowered, given their two-digit values experienced in the years before (see table 1). In 1973 already, the rate of growth of M_1 was reduced to 2.3 percent, while in the preceding year, it had still been 17.9 percent. For the monetary base, the corresponding values even were — 4.4 percent for 1973 and 18.7 percent for 1972, respectively. In 1974, M_1 was left almost unchanged, while the monetary base only just reached its level of 1972 again, i.e. made up for its decline in 1973. While these numbers must be seen against the background of the enormous increases of both aggregates in the early 1970s, it is clear nonetheless that they represent an abrupt transition from a very expansionary to a very restrictive policy of monetary growth.

For the year 1975, a money growth target was announced by the SNB for the first time. Target rates of growth of 6 percent for M_1 were announced for 1975 and 1976, while for 1977 and 1978 the targets were set at 5 percent. In view of declining inflation expectations, these rates of money growth were thought to be consistent with the SNB's anti-inflationary policy course. A comparison with actually realized rates of growth (table 1) shows that up to (and including) 1977 the SNB did stick quite closely to these targets. According to expectations, this money growth policy was successful in lowering the rate of inflation to com-

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Table 4

Real Gross National Product — percentage changes vis-a-vis preceding year

	Switzerland[a)]	USA	Germany	OECD
1971	4.1	2.9	3.2	3.7
1972	3.2	5.8	3.7	5.5
1973	3.0	5.4	4.9	6.3
1974	1.5	— 1.3	0.5	0.7
1975	— 7.4	— 1.0	— 1.8	— 0.5
1976	— 1.4	5.6	5.2	5.3
1977	2.4	5.1	3.0	3.7
1978	0.4	4.4	3.5	3.9
1979	2.5	2.8	4.5	3.4
1980	4.6	— 0.1	1.8	1.2
1981	1.9	1.9	0.2	1.2
1982	— 1.3	— 1.7	— 1.1	— 0.2
1983[b)]	— 1.4			

a) Real Gross Domestic Product.
b) First quarter.

Sources: Langfristige Reihen der Nationalen Buchhaltung der Schweiz und Wirtschaftsspiegel, Bundesamt für Statistik, 1983, Economic Outlook, OECD.

paratively low levels: Starting from 9.0 percent in 1973 and 10.0 percent in 1974, values of 2.2 percent, 1.2 percent, and 0.6 percent were reached in the years 1976, 1977 and 1978 respectively (see table 2). At the same time, and also according to expectations, a marked reduction in nominal interest rates occurred (table 3). In 1978, the yield on federal bonds was just slightly above 3 percent, and money market rates even fell below 1 percent. This suggests that the drastic reduction of money growth to a level more consistent with price level stability which had taken place in the preceding years had succeeded in more or less breaking the inflationary expectations prevalent during the early 1970s. By 1978, nominal rates of interest presumably did not contain much of an inflation premium anymore, i.e. more or less appropriately measured real rates of return.

Along with this success in the fight against inflation, there was a sharp decline in real economic activity. In 1975 and 1976, Swiss GDP declined in real terms, in 1975 by no less than 7.4 percent. Although such a decline was experienced by most industrial countries at that time (by many of them in 1974 already), partly due to the first oil shock, the

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Table 5

Labor Market

	Unemployment Rate (%)	Foreigners Employed (in 1 000 persons)	Permanent Resident Foreign Workers (Niedergelassene)	Foreign Seasonal Workers, One-Year-Residents (Jahresaufenthalter, Saisonarbeiter und Grenzgänger)
1973	0.0	848	274	574
1974	0.1	829	306	523
1975	0.4	750	327	423
1976	0.7	667	327	340
1977	0.4	663	328	335
1978	0.4	631	336	295
1979	0.4	641	353	288
1980	0.2	662	368	308
1981	0.2	689	381	294
1982	0.4	706	393	313
1983[a)]	0.9	694	401	293

a) First quarter.

Source: Wirtschaftsspiegel, Bundesamt für Statistik.

decline in Switzerland was considerably more pronounced than that in practically all other countries (see table 4). Given the sharply restrictive monetary policy of the SNB in the preceding years, this is not exactly surprising. On the other hand, judged in terms of unemployment statistics, Switzerland had no noticeable difficulties during this period. Only in 1975/76, the measured unemployment rate was somewhat higher than usual (see table 5). Of course, this has to do with the fact that, due to the high international mobility of labor in Switzerland, the Swiss unemployment statistics have limited significance only. The number of foreign workers, which accounted for no less than 26 percent of the total Swiss labor force at that time, fell from about 850,000 in 1973 to about 630,000 in 1978, mostly due to a decline in the number of seasonal workers and "Jahresaufenthalter" (one-year residents). However, it must also be noted in this context that a substantial reduction in the size of the foreign population of Switzerland, and thus a rescaling of the Swiss economy overall, as it is reflected in these numbers, represented a clear desire of a large part of the Swiss voting population at that time and thus was politically unavoidable in any case, as

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Table 6

Real Exchanges Rates[a]: Appreciation of Swiss France vis-a-vis Currencies of Most Important Trading Partners — percentage rates of change vis-a-vis preceding year[b]

	Germany	USA	France	weighed average[c]
1974	5.9	3.6	10.8	5.5
1975	10.4	12.8	— 1.9	6.7
1976	2.8	— 0.5	6.8	3.7
1977	— 6.2	— 1.1	— 0.8	— 4.9
1978	14.6	26.3	14.5	16.6
1979	— 2.6	0.0	— 5.2	— 3.1
1980	— 3.0	— 8.9	— 9.8	7.7
1981	6.8	— 17.7	2.9	— 0.1
1982	4.2	— 3.9	10.9	5.3

a) On basis of consumer prices.
b) Average of daily values, base year: November 77 (+: appreciation, —: depreciation).
c) Vis-a-vis 15 most important trading partners (export-weighted, arithmetic mean).
Source: Geld, Währung und Konjunktur, Quartalshefte 2/1983, Swiss National Bank.

manifested in a new and more restrictive policy vis-a-vis foreign workers and immigration. We will return to this question in section 3 below.

While in the years after 1973 the problem of reducing inflation from high (two-digit) initial values to levels more consistent with a stable financial environment was in the forefront of Swiss monetary policy, this objective was more or less reached by 1977/78 (to an extent which had maybe not quite been expected by many observers). At the same time, labor market conditions were quite satisfactory in 1977/78 (given the tighter conditions set by the Swiss policy vis-a-vis foreign workers and immigration). In the years after 1977/78, therefore, Swiss monetary policy was dominated more and more by the question of how to maintain these favorable conditions in view of various kinds of external disturbances, most noticeably exchange rate changes and energy price fluctuations.

The main problem in 1977 and especially 1978 was, of course, the enormous appreciation of the Swiss franc relative to all important currencies (in real terms by 14.6 percent vis-a-vis the DM and by 26.3 percent vis-a-vis the U.S. dollar in 1978; in terms of an export-weighted average relative to the most important trading partners the real revaluation was 16.6 percent in 1978; see table 6). Although this strong reval-

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Table 7

Current Account and Trade Balance — million francs (current prices)

	Current Account Balance	Trade Balance[a)]
1971	340	— 5,895
1972	840	— 5,910
1973	890	— 6,740
1974	510	— 7,790
1975	6,680	— 1,280
1976	8,420	— 630
1977	8,270	— 2,295
1978	7,870	— 1,365
1979	4,065	— 5,625
1980	— 905	— 11,810
1981	5,420	— 8,770
1982	7,380	— 6,370

a) „Spezialhandel und übriger Warenverkehr".

Source: Ertragsbilanz der Schweiz, Mitteilungen der Kommission für Konjunkturfragen.

uation of the Swiss franc had relatively little effect on trade flows and the current account balance at first (see table 7) — only in 1980 the current account showed a deficit, for the first time since 1965 — it assumed proportions so dramatic in summer 1978, that the competitive position of the Swiss economy seemed to be seriously endangered. The SNB had always reserved the right to deviate from its previously announced targets in cases like this and, in view of these developments, it decided to tolerate a temporary increase in the money supply far beyond the previously set target. For 1979, it chose not to set a money growth target, and in October 1978, it temporarily replaced its money stock policy with an exchange rate policy vis-a-vis the DM (the currency of the most important trading partner). This resulted in a strong overshooting of the money growth target for 1978 (see table 1). In the six months between September 1978 and March 1979 alone, the monetary base rose by 17 percent and M_1 by 11 percent. In spring 1979, the exchange markets calmed down again. It was the hope of the SNB that such a temporary deviation of money growth from the longer-run expansion path deemed consistent with price stability, which it viewed as the accommodation of a massive increase in the international demand for Swiss money, would be without serious consequences for domestic

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inflation and could be reverted again later in due time. This hope was only partially fulfilled, though. In the years after 1978 the inflation rate rose again, from 0.6 percent in 1978 to 4.4 percent in 1979 and 6.6 percent in 1981. This appeared to be the price paid for the policy shift of 1978, although, of course, the inflationary impact of the second oil shock should not be overlooked either.

For the year 1980 and afterwards, the SNB returned to its policy of announcing money growth targets, but now directly for (adjusted) central bank money, rather than for M_1, as before. This change in the monetary target variable was rationalized by the fact that the demand for M_1 and the money multiplier seemed to be more difficult to forecast since the later 1970s, possibly due to an increasing importance of expectations of exchange rate changes.[1]

For 1980 and 1981, the SNB set target rates of growth for central bank money of 4 percent. Again, large deviations from these targets occurred, but this time on the lower side. In 1980, central bank money actually was reduced by 7 percent, and in 1981, the growth rate was still slightly negative (see table 1). The SNB justified this course and the implied deviations from the original targets by two facts. First, the inflation rate had increased again after 1979 (more than expected when the target had been set — to almost 7 percent in 1981), partly due to a considerable (real) depreciation of the Swiss franc. Second, contrary to expectations, the demand for currency (bank notes) did not increase much in 1980 and 1981, in spite of a substantial increase in real economic activity, so that the target rates of growth originally chosen seemed to be too high (currency constituting about two-thirds to three-fourths of total central bank money in Switzerland).

Generally speaking, these years again were characterized by attempts to free the system from the higher levels of inflation resulting from the policy of 1978 and the second oil price shock (see table 2). In line with the general policy objective pursued by the SNB over all these years, a gradual downwards adjustment was attempted. This policy, which was successful in gradually reducing inflation over the subsequent years, was maintained in 1982 and 1983. For these years, target rates of a 3 percent increase were announced, and these targets were fairly closely adhered to. It is noteworthy that the disinflation policy of the early 1980s in Switzerland took place under somewhat different, and in a sense more difficult, conditions than that of the middle 1970s. In the earlier period, many other countries had followed a policy of expansion at a time when Swiss monetary policy was restrictive, in con-

[1] See *Rich* and *Béguelin* (1982), 13, on this.

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trast to the early 1980s, when most of the important industrial countries also followed a rather restrictive course. Aided by a considerable franc appreciation, success in the fight against inflation in the middle 1970s thus was comparably quick and easy, while in the early 1980s the effect on the inflation rate, partly due to a weakening franc, was slower and weaker. Adverse labor market developments occurred in Switzerland during the most recent years only, and their extent has remained moderate, in international comparison, so far.

3. The Costs of Disinflation. The Swiss Experience 1973 - 78

The kind of disinflation policy pursued by the SNB in the mid-1970s raises the question of the costs of such a policy. The Swiss experience provides one example to judge the weight of these costs. For this purpose, this experience is discussed and evaluated in a somewhat more detailed manner in the following.

General considerations

It seems useful to begin this discussion with a brief summary of the view of inflation and its explanation which forms the basis for the interpretation of the experience given in this paper. In a certain long-run sense, inflation theory is a comparatively simple affair about which there exists a broad concensus among economists of rather different persuasions: no sensible theory of inflation gets around accepting the long-run relationship between the trend rates of growth of the price level and of the money stock (the latter adjusted for the rate of growth of real money demand caused by real income growth). If, in addition, we accept the idea that, in principle, the central bank has the power and the responsibility to control the money stock, then we get to the view that the central bank, via the money stock growth which it chooses (or tolerates) with its policies, determines the trend rate of growth of the price level.

This, however, is a long-run view only, which makes the average rate of money growth over several years responsible for the average rate of inflation. It does not contradict the view that, in the short run, a variety of other factors, such as fiscal policy measures, exogenous factor price increases, real exchange rate and terms-of-trade changes, or changes in inflation expectations can influence the price level and the rate of inflation. However, these factors can cause once-for-all changes in the price level only (which may be of a permanent or temporary nature, depending on whether the underlying disturbances are permanent or transitory). Thus, they may cause the inflation rate to deviate tempora-

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rily from its long-run average, but they cannot explain a change in the latter itself. In other words: a variety of factors can influence the short and medium term dynamics of the price level process — in contrast to its long-run trend, which is determined by money growth alone — and thus may be the cause of a possibly rather imperfect short-run correlation between inflation rates and money growth.

This, of course, suggests that a reduction of money growth is a necessary requirement for a viable policy of disinflation. The main difficulty associated with such a policy is usually seen in the fact that wages and prices do not normally react immediately and fully to monetary impulses, but only with a certain lag, due in particular to informational imperfections and the existence of multiperiod contracts. As a consequence, monetary changes will have real income and employment effects. Of particular importance in this context are the questions of whether a given monetary policy change has been expected or not, and whether it is viewed as a permanent change or a temporary one only. This makes the question of the credibility of the monetary authorities and of an announced policy change, and its consequences for expectations formation, highly important.

If inflation expectations, and thus actual wage and price growth adjust only partially to a reduction in the rate of money growth in the short run, the result will be a decline of the real stock of money and of output and employment, combined with an increase in nominal and real interest rates (with the latter helping to explain the negative output reaction).[2] If domestic and foreign financial assets are substitutes to some degree, the domestic interest rate increase (given an unchanged monetary policy abroad) causes a desire for portfolio reallocations in favor of domestic titles and an appreciation of the domestic currency. The extent of this appreciation will exceed the amount which would correspond to the new long-run equilibrium path of the exchange rate (in the long run, the domestic currency will gain in value according to the international inflation differential), in order to allow re-establishment of an equilibrium yield differential between domestic and foreign assets. In this way only, a subsequent expectation of depreciation for the domestic currency can occur, which just compensates for the increase in the domestic rate of interest. The appreciation of the domestic currency, via reducing the prices of traded goods, reinforces the damping effect of monetary deceleration on the inflation rate, and, via a potential reduction in net exports, its negative effect on output and employment.

[2] If the monetary policy change is only viewed as a temporary change at first, with inflation expectations not being much affected, the immediate impact would probably mostly be on short-term rates, without much effect on commodity demand and output at first.

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The faster inflation expectations adjust downwards (to reflect the lower money growth rate), the faster will these undesired output and employment effects and the short-run overvaluation of the domestic currency, and the corresponding interest rate increase, disappear again. A fall in inflation expectations causes cost conditions and nominal interest rates to decline. This decline in domestic interest rates will eventually turn around the initial response of exchange rates: the price of the domestic currency begins to fall again (or to increase less than before — correcting the preceding overshooting of the new long-run exchange rate path), so that a declining expected rate of depreciation for the domestic currency is accompanied by a declining interest differential in favor of domestic assets. The fall in the (real) price of the domestic currency, along with the decline in interest rates, has a positive effect on domestic economic activity, again. In the long run, a stabilization of the actual and expected inflation rates on the new, lower level corresponding to the new money growth rate will take place. The nominal rate of interest is reduced by the reduction in the rate of inflation, and nominal exchange rates move in accordance with the changed inflation differential.

An over- and subsequent undershooting of the inflation rate and the exchange rate (relative to their new equilibrium paths) is a characteristic of this type of adjustment process. This is caused by two (independent) factors: First, if in the initial phases of adjustment the price level still grows faster than the money stock, then the inflation rate must later temporarily fall below its new equilibrium value, in order to restore the initial level of real money balances (per capita). Second, since in the new long run equilibrium the nominal interest rate is less than before, desired real cash balances should be higher than initially. This is possible only if, at some stage of adjustment, the inflation rate is less than the rate of money growth. Similar considerations apply to the exchange rate.

Of course, this is just a description of the general pattern of adjustment to be expected in response to a reduction in the monetary rate of expansion. About the length and severity of such an adjustment process and the associated costs, there exist widely divergent views. On the one hand, there are authors who, by pointing to earlier experiences of numerous countries with disinflation attempts, try to show that these costs are necessarily enormous; see, e.g. *Gordon* (1982) or *Okun* (1978). Common to this view is the perception of an "underlying" or "base" rate of inflation which is characterized by a high inherent degree of inertia and may be influenced by monetary and fiscal measures very slowly only. The short-run effect of such measures is mainly seen to be one on output, but not on the price level, so that lowering the inflation

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rate, e.g. from 10 to zero percent, may require many years (e.g. a whole decade) and cause enormous adjustment costs. According to an often cited estimate for the US economy, e.g. a reduction of the inflation rate by one percentage point causes a GNP loss of 200 billion US dollars, i.e. almost 10 percent of GNP.[3]

Other authors, e.g. *Fellner* (1979), *Sargent* (1982) or *Brunner* (1983), on the other hand, claim that there is no such inherent inertia in a disinflationary adjustment process, but that the degree of such inertia is determined by the credibility of monetary policy, and thus by relevant expectations and past experiences. The variety of different experiences in different countries and time periods is emphasized, as well as the fact that most of the examples quoted by the first group of authors refer to periods in which, for one reason or another, this credibility was lacking, to a higher or lesser degree. *Sargent* (1982) points to four hyperinflations which were brought to an end at moderate real costs only, by a marked change in fiscal and monetary regimes.

To this writer, and in light of the Swiss experience, the second of these views seems more convincing. It seems questionable that statements concerning the cost of reducing the rate of inflation by a percentage point could be generalized, and it appears that direct application of empirical experiences generated in a given period with given policy behavior to other periods with other policy behavior could be potentially misleading and dangerous. A disinflation policy will be most effective and will cause comparatively moderate costs only, if the central bank quickly succeeds in making credible a new and more restrictive policy as a permanent new policy orientation. The sooner a central bank can achieve this, or the more it can operate on the basis of an already existing high level of credibility, the quicker will its disinflation policy work. How can such credibility best be created and maintained? Of course, announcements (e.g., in the form of money growth targets) and policy statements can play a role in this regard. It is equally clear, however, that announcements alone are not sufficient. What really matters is the actual expectations of future policies created by them, i.e. the reliability of such announcements. The evaluation of the central bank's policy (including its announcements) and its credibility will to a large extent depend on past experience, and will normally change slowly only (credibility as a capital good, comparable to "goodwill" and trust in product quality).

Obviously, the credibility of a monetary authority depends in particular on the frequency and extent of discrepancies between actual and announced policies. In this, it is maybe not so much the degree of

[3] *Okun* (1978), 348.

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short-run correspondence which matters, but rather the degree of the central bank's commitment to its medium or long term goals, i.e. the existence or nonexistence of systematic discrepancies between announcements and actions in the long-run average. A stop-and-go policy pursued in the past can be very costly for a policy of monetary declaration and disinflation. Also important, of course, is confidence in the ability of the central bank to actually reach its targets with the control instruments available to it.[4] Deviations from announced targets can, in principle, be planned deviations or simple control errors. Furthermore, the credibility of fiscal policy and its long-run consistency with a given money stock policy may be important, too, for the effectiveness of a given disinflation policy.[5] Finally, the credibility of monetary policy is also affected by the degree of success of the central bank in justifying and explaining its deviations from previously set targets. After all, new information can become available after the setting of such targets, which may make a correction of the earlier plans not only acceptable but advisable. Such corrections, however, should obviously not occur too frequently and should be made on the basis of understandable and justifiable arguments only, if the practice of announcing targets is not to become meaningless and confusing.

Given an erratic policy in the past and thus a low level of credibility, the cost of a radical and sudden reduction in money growth is likely to be high, unless it is possible, in some way, to signal the policy change in an unambiguous way, e.g. with a clearly recognizable transition to a totally different monetary standard. I believe that Switzerland (and, in a basically similar way, Germany) have used the transition to flexible exchange rates in 1973 in precisely this way, while other countries have let this opportunity pass. Of course, a change in monetary standard will normally not be seriously considered as a response to moderate inflation, such as that experienced by the industrial countries during the last twenty years. A more gradualistic disinflation policy then may be more recommendable and more likely.

The Swiss Experience 1973 - 78

The problems facing the Swiss monetary authorities in the mid-1970s were of the type just described above and, I believe, the Swiss experience is, more or less, consistent with the view of inflation and disinflation policies sketched in the preceding paragraphs.

During the fixed exchange rate period, up to 1973, Switzerland had experienced very high rates of growth of money and, correspondingly,

[4] See *Cukierman* and *Meltzer* (1982).
[5] See *Sargent* and *Wallace* (1981) on this.

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high rates of inflation (almost 10 percent in 1973 and 1974). Only the transition to flexible rates created the opportunity for an independent monetary policy and this gave the SNB the option for an effective and independent disinflation policy. The question was whether, and to what extent, this option should be used. As is well known, the SNB — in contrast to the monetary authorities of many other countries — chose to utilize this opportunity and to follow a decided policy of money stock and inflation control, by drastically and rather suddenly lowering the growth rate of money to temporarily almost zero (1973: + 2.3 percent, 1974: + 0.1 percent) and subsequently leaving it at moderate levels between 4 to 7 percent in the years 1975 to 1977 (which, given the tendency to lower inflation and inflation expectations, were deemed to be more or less consistent with reasonable price level stability in these years). It is clear that this course pursued by the SNB after 1973 represented a very radical policy shift. As already mentioned, the SNB has used the chance offered by the change in monetary regime which took place in 1973 for a sudden and abrupt change in its policy. This course has led to a drastic decline in the rate of inflation in a remarkably short period of time (from a high of almost 10 percent in 1974 to 2.2 percent in 1976, 1.2 percent in 1977 and 0.6 percent in 1978), and it has created a remarkable level of confidence and credibility in the SNB's policies in a relatively short period of time.

While this policy has quickly led to the hoped for reduction in inflation (much faster than many economists of the first of the above mentioned persuasions believed to be possible), it must be noted nevertheless that this success did not come overnight but required several years, and that it was accompanied by a severe recession in terms of real economic activity (negative growth of GDP of − 7.3 percent in 1975, − 1.4 percent in 1976; decline in employment). Of course, it is true that, as a result of the first oil crisis, these were years of recession in most industrial countries. Nevertheless, the decline in Swiss GDP clearly exceeded that of the other industrial countries during this period. If the cost of the disinflation policy of the 1970s is measured in terms of the output and employment decline of the Swiss economy, relative to the output levels and growth rates of the 1960s and early 1970s (as, e.g., *Gordon* (1982) does in his evaluation of the Swiss example), the conclusion must be that the cost of this policy was heavy.

On the other hand, a totally different picture emerges from looking at the unemployment statistics. While the unemployment rate rose to a level of 0.7 percent between 1974 and 1976, it declined again subsequently to 0.4 percent in 1977 and even 0.2 percent in 1980. In this writer's opinion, however, neither of these two views alone allows an

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adequate evaluation and understanding of the SNB's policy and the state of the Swiss economy during the mid 1970s.

First of all, it is clear that the measured unemployment rate in Switzerland is not a very meaningful statistic, since, due to the high degree of international mobility of labor, losses of jobs can be (and have been) relatively easily compensated by sending foreign workers back to their home countries: the often cited "export of unemployment". Nevertheless, to measure the cost of the disinflation policy of the mid-70s by simply looking at the decline in real output (more exactly: by comparing the output levels since 1975 to the output levels in the 60s and early 70s and the trend implied by them), in this writer's opinion, means to totally misrepresent and misunderstand the real situation in Switzerland during this time period, too. The main reason for this is the change in the Swiss policy vis-à-vis foreign workers and immigration which took place during this period (besides the effect of the rise in energy prices which, of course, had a similar adverse effect on "normal" output in Switzerland as in most other countries). Whatever one's personal opinion of this policy, it cannot be overlooked that by the mid-1970s a substantial reduction in the size of the foreign working (and total) population, and thus a rescaling of the Swiss economy overall, was a central political issue for a large part of the Swiss voting population, and this to an extent which made steps in this direction politically unavoidable, in any case.

While this factor does not lessen the extent of the decline of the Swiss economy in 1975, it can help to explain why it was politically feasible for the SNB during the 1970s to pursue such a restrictive policy, and it should make clear that it is inappropriate and misleading to compare the output levels of the Swiss economy in the late 1970s and early 1980s with the corresponding levels in earlier periods and their implied trend. The rescaling of the Swiss economy and its working population which took place in the mid-1970s (in a "permanent" way, not just as a temporary deviation) cannot primarily be viewed as a consequence of the monetary policies of the mid-1970s, but it was, in the final analysis, determined by the political will of its voting population (which does not exclude the view that the political desire for such a rescaling may have indirectly influenced the actual monetary policy chosen by the SNB).

For this reason, it would be totally wrong still to use the output levels of the 1960s and early 1970s and the trend implied by them as a benchmark for a comparison with the late 1970s and early 1980s and to measure deviation from "normal" output on this basis. This is precisely what *Gordon* (1982) does when he talks about the creation

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of a "veritable depression" by the Swiss disinflation policy of the mid 1970s and points to the negative growth trend of the Swiss economy between 1973 and 1978. Although the latter is a fact, it did result in the first place from the changes in the Swiss policy vis-a-vis foreign workers and immigration mentioned above, and not from an insufficient resource utilization still going back to the restrictive monetary policy of 1973/74. There can be no doubt that during the late 1970s, the Swiss economy would have been able to reabsorb many of the foreign workers again which had been set free earlier — if only immigration rules had made them available. They can obviously not be counted still today as victims of the monetary policy pursued ten years ago.

I believe that, given the political wishes of the Swiss voting population, the real costs of the monetary policy of the mid-1970s (measured in terms of the measured unemployment rate and non-exhausted contingents of foreign workers, as well as in output-per-capita terms) for Switzerland were surprisingly low. Of course, these adjustments were not costless for the foreign workers concerned. However, it should not be overlooked that many foreign workers enter Switzerland as seasonal workers and "Jahresaufenthalter" (one-year residents), and consequently without a guarantee for permanent employment (which they may not even desire in some cases). Also, basically, I see nothing negative about such contracts, as long as nobody is misled or forced into them. After all, just as one can talk about "exporting" unemployment, one could, in principle, speak of an "import" of unemployed foreigners by the Swiss economy during the 1960s and early 1970s. The fact that labor contracts with many foreigners do not include guarantees for permanent employment does not mean that they cannot be in the mutual interest of both contract parties.

I believe that the following lessons can be drawn from the Swiss experience of the mid-1970s. Given the political conditions in Switzerland with respect to the question of foreign workers and immigration, the policy pursued by the SNB was quite successful, in my opinion, from the point of view of the Swiss economy. As mentioned, however, I believe that this policy could be as successful as it was, only because the SNB was able to exploit a clearly recognizable change in monetary regime (the transition to flexible exchange rates) in order to signal a marked change in its policy and make this policy change credible in a relatively short period of time.

Even so, however, I believe that, generally speaking, the Swiss example is consistent with the view that a disinflation policy of the abrupt kind discussed here implies serious costs (temporary output and employment losses) and that, generally speaking, (i.e. under con-

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ditions differing from the specific conditions present in Switzerland in the mid-1970s), a more gradual change would be more advisable. On the other hand, the danger should not be disregarded, either, that these costs may easily be overestimated by looking at the 1970s, if the supply shocks of this period and their adverse effects on normal output are not adequately taken into account.

4. Monetary Policy with Exchange Rate and Supply Shocks: 1978 - 83

The same problems which make an active policy of disinflation a difficult undertaking also make difficult a policy attempting to maintain an achieved, low level of inflation through an adequate money stock control. In view of various kinds of disturbances which, given an unchanged money stock policy, may endanger output and employment stability the question arises whether, and to what extent, they should be answered by an accommodating expansion or reduction in money growth, i.e. by a (transitory) deviation from the expansion path deemed appropriate in the medium to long term.

The main task facing the SNB since 1977/78 has changed in precisely this sense, after the inflation rate had been lowered almost to its ideal level of zero in these years. The main problem facing the SNB since then, in contrast to 1973 (and in contrast to the situation of many other countries at that time), was not so much whether a serious attempt to lower the rate of inflation should be made — this had already been done. The main problem rather was, and still is, whether, and to what extent, monetary policy could react to various disturbances by temporarily deviating from its targets, without endangering what had been achieved before and without destroying the confidence in the SNB's policies which had been built up before. For Switzerland, two types of disturbances have played a major role in this context: supply shocks (energy price increases) on the one hand, and (real) exchange rate fluctuations (such as those experienced in 1978), on the other hand.

It is generally accepted that there exist situations where, in principle, an accommodating monetary policy is appropriate. In particular, this is so in the case of an autonomous shift in money demand, e.g. due to shifts in international liquidity preferences, as they may be manifested in real exchange rate changes. However, not all changes in real exchange rates are due to this cause, of course, which makes a policy looking at exchange rates too much a potentially dangerous one. In the case of supply shocks, the issue of an accommodation policy is controversial, too.

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Supply Shocks

The question of the optimal response to adverse supply shocks (example: oil price increase) has been much discussed in recent years. Frequently, an accommodating policy is recommended. The idea in this is that money growth should be temporarily increased, so that, e.g. a permanent increase in energy prices will lead to a once-for-all increase in the general price level only. Once this supply-induced once-for-all effect on costs and prices is completed — so is the idea — money growth can be lowered again to its previous rate. This response is thought to prevent adverse effects of the supply disturbance on resource utilization, while increasing the price level in a once-for-all manner only.

A crucial condition in this type of argument is, however, that the expected rate of inflation and thus demand for wage increases remain unchanged. This may easily not be the case, though, since the inflation rate will actually rise (temporarily only — but who knows this with certainty at the time!). In order for the preceding scenario of an (ideal) accommodation policy to be realized, it seems that the temporary nature of the inflation rise and its cause must be understood and accepted by market participants, so that they refrain from demands for further wage increases, i.e. accept a once-for-all real wage cut. But if this is the case, why wouldn't they accept a real wage cut to begin with, i.e. accept a (once-for-all) wage increase below the rate of inflation in response to an oil price rise, in which case the oil price increase would have no adverse effects on resource utilization to begin with, so that an accommodation policy would be redundant?

On the other hand, if conditions are not as "favorable" or "ideal" — which may easily be the case if the nature of the underlying disturbance or its consequences are not well understood or accepted, or if there exist relatively rigid mechanisms of wage indexation — such an accommodation policy may be quite dangerous. Then, as soon as such a policy has led to a (temporary) increase in the inflation rate, a compensating adjustment in wages will be demanded, leading to a further increase in cost conditions. If, under such conditions, money growth is reduced again later (as recommended in the scenario described above), the (temporary) output and employment losses which one attempted to prevent will occur anyway. The real cost of adjustment to the supply shock then has simply been shifted a bit in time. A new equilibrium with continuous maintenance of normal employment and output is possible only, given these "unfavorable" conditions, if money growth is increased permanently, i.e. if a permanently higher rate of inflation is accepted. Even then, a once-over cut in real wages is

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unavoidable, though, namely in the period in which the accommodation of the oil price rise is taking place. An attempt to continuously maintain the previous real wage rate would imply the danger of accelerating inflation, given an accommodating monetary policy. Thus, the alternatives to the temporary output loss caused by a nonaccommodating policy are — given the relevant comparisons — a permanently increased or even accelerating rate of inflation.

Beyond this, the fact must be noted that supply disturbances, such as an oil price rise, also affect the level of "normal" output (i.e. the output level consistent with "normal" or average utilization of the given resources of the economy). Using the previous output levels as a benchmark to measure output fluctuations, then, can easily imply too expansionary a policy. Finally, as always in stabilization attempts of this sort, it is difficult to determine the adequate dosage of the measures to be taken. All this implies that a cautious attitude vis-a-vis such an accommodation policy in the case of supply shocks, as has been typical for Switzerland and the SNB, might be quite a defensible position.

Exchange Rate Disturbances

The second type of disturbances which, especially in Switzerland, has been the cause of discussions about the desirability of accommodations in monetary policy are exchange rate changes. In particular, a strong appreciation of the Swiss franc — beyond the extent justified by international inflation differentials — quickly leads to requests for an accommodating increase in money growth in Switzerland, in order to dampen or eliminate this appreciation again. Of course, the main difficulty with such an exchange-market-oriented policy is that exchange rate fluctuations may have a variety of different causes, with an accommodating policy not being appropriate in all of these cases.

There is one type of disturbance which, if not accommodated, will lead to a (temporary) real overvaluation of the domestic currency and where an adequately measured accommodation can prevent such an overvaluation and the undesirable real effects associated with it. This is an autonomous increase in the demand for real domestic money, e.g. due to an increased preference of foreigners for domestic currency. Such a shift — if not appropriately balanced by an immediate decline in all money prices — makes domestic money more scarce, inducing a rise in domestic interest rates and a (real) overvaluation of the domestic currency.

A policy which, for this reason, attempts to dampen or eliminate real exchange rate movements may be quite risky, however. First of

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all, there are the usual difficulties of finding the correct timing and dosage of such compensating measures and the problems of finding the appropriate price indices for deflating nominal exchange rates and an adequate currency basket. More serious, however, is the fact that exchange rate changes can have causes other than money demand shifts, where a monetary accommodation may be inappropriate. If, for instance, a temporary overvaluation occurs as a result of a slow adjustment of commodity prices and wages to a previously initiated restrictive monetary policy, a monetary accommodation would obviously not be appropriate, as it would essentially nullify again the originally intended monetary restriction and thus prevent achievement of its goals. The overvaluation of the domestic currency which can temporarily result from such a policy, then, is nothing but an expression of and counterpart to the slow adjustment of prices and wages and represents precisely the factor which eventually drives the system to a new equilibrium at a lower rate of inflation. Attempts to prevent such changes in real exchange rates from occurring, then, would be counterproductive and potentially destabilizing.[6]

The most serious problem of such a policy, however, is that exchange rate adjustments may also result from changes in real economic conditions in the world economy (shifts in demand and supply conditions which require adjustments in terms-of-trades and real exchange rates). In these cases, of course, it is not advisable to suppress such adjustments. A policy aimed at stabilization of real exchange rates (e.g., via a purchasing power parity rule) thus runs the risk of creating incorrect market signals and inducing long-term resource misallocations and distortions. In particular, a country like Switzerland with its heavy dependence on foreign trade should be very careful not to prevent normal structural change from occurring by subsidizing sectors which are not internationally competitive in the long run via artificially keeping down the value of its own currency.

Frequently, it is asked in this context whether, and to what extent, the exchange rate can be influenced via sterilized interventions in the exchange markets under a given money stock policy, i.e. by a purchase of foreign exchange against domestic nonmonetary (earning) assets. As is well known, the effect of such an operation depends on the degree of substitutability of these two kinds of assets in private portfolios. The higher it is, the lesser will be the effect on the exchange rate. The experiences of the SNB with this instrument seem to suggest that the degree of substitution is high, at least in the case of short-term instruments (and, of course, especially in the case of covered foreign assets),

[6] See *Niehans* (1980).

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so that an effect on the exchange rate can be achieved in the very short-run, at best. Whether the use of longer-term assets would be more effective in this regard is still an open question.[7] The SNB's possibilities here are very limited though, for the time being, for institutional reasons.

As mentioned before, the SNB has temporarily abandoned its money stock policy due to the enormous appreciation of the Swiss franc in the years 1978/79, by very markedly surpassing its original money growth target for 1978 and then abstaining from setting such a target for 1979. I believe that, basically, the decision for a monetary accommodation was appropriate during this episode. The appreciation of the Swiss franc which took place then was so enormous that it could hardly be explained by anything else but a strong increase in the demand for Swiss currency.[8] A non-accommodating policy, under these circumstances, could have caused very serious damage to the real economy. However, I believe that, at the same time, this episode also illustrates the danger of such a policy and, in the final analysis, the danger of unstable monetary conditions in the economic environment of a small country and the difficulties of an independent monetary policy in such an environment. In retrospect, it is clear — given the resurgence of inflation in the years after 1979 to levels between 4 and 6.5 percent — that money growth at the time (and probably before) had been somewhat too high, and the reduction of money growth afterwards somewhat too modest, in order to maintain price stability. But the fact that such conclusions can be drawn, with some degree of confidence, in retrospect only emphasizes the difficulties of monetary policy under such conditions. In the final analysis, exchange rate instability is nothing but an expression of the amount of monetary instability in the world economy — differences in monetary and fiscal strategies, high and variable inflation rates — an instability the consequences of which cannot reasonably be expected to be eliminated by one (small) country alone.

I believe that the Swiss experience since 1978 is generally consistent with the following view: Monetary policy, especially in a small country in an unstable monetary environment, must have some amount of short-run flexibility, especially in view of the possibility of shifts in international liqudity preferences among currencies. But, since not

[7] See *Niehans* (1981) on this.

[8] Given the restrictions on foreign purchases of Swiss assets ("Anlageverbot") and the negative interest "tax" on foreign bank deposits in force then, the demand for currency (bank notes) probably was affected in particular.

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every change in exchange rates is a signal of such a shift in liquidity preferences, this flexibility should be used with great caution and only infrequently and in situations of extraordinary dimension. Otherwise, there is the danger that well-meant attempts at stabilization will actually result in destabilization and loss of credibility, since the authorities, like the private market participants, can differentiate in a very imperfect way only between different types of disturbances and thus are exposed to the risk of reacting in an inappropriate way (problems which presumably form part of the cause of the "imperfections" of private markets) and, furthermore, because such attempts can easily lead to an (unintended) loss of the long-run control over money growth.

The policy pursued by the SNB since 1978 has been quite close to this view. The SNB has, on the whole, been quite successful in explaining and justifying deviations from previously set targets and maintained its credibility when such deviations took place, i.e. in 1977/78 (see the discussion above), and again in 1980/81, when as a result of reverse developments actual money growth was kept below the originally set targets. A good part of this success, I believe, is due to the fact that the SNB has been rather cautious in terms of the frequency of deviating from its original targets, and so has managed to maintain confidence in its long-run commitment to a policy of stable money growth and price level stability.

Summary

During the past ten years, the Swiss National Bank has followed a comparatively strict policy of money stock control aimed at controlling the rate of inflation. It is the purpose of this paper to review and interpret the experience of the Swiss economy with this policy pursued by its monetary authorities. The Swiss experience provides one example to judge the weight of the costs of a disinflation policy.

Zusammenfassung

Die Schweizerische Nationalbank hat bekanntlich während der letzten zehn Jahre in vergleichsweise ausgeprägter Weise eine auf die Bekämpfung der Inflation ausgerichtete Politik der Geldmengenkontrolle verfolgt. Der vorliegende Aufsatz ist ein Versuch einer Diskussion und Beurteilung der Erfahrungen der schweizerischen Wirtschaft mit dieser Politik. Diese Erfahrungen stellen ein Beispiel dar, welches zur Einschätzung der volkswirtschaftlichen Kosten eines Disinflationsprogramms herbeigezogen werden kann.

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