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Money Supply and Money Demand Determinants of Swiss Inflation

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Since the transition to flexible exchange rates, the Swiss National Bank has controlled the growth of monetary aggregates by determining the growth of the monetary base. The primary objective of this regime of monetary control was the reduction of inflation with the aim of eventually eliminating any trend movement of the price level. In an international comparison, Swiss inflation was diminished rather quickly and remained below two percent between 1976 and 1978.

In the eighties the Swiss National Bank has not been under much pressure to deviate from the money growth path it considered consistent with the target of a stable price level. In the late seventies, however, the appreciation of the real Swiss franc was a major policy concern, since it seriously impaired the competitive position of Swiss industries relative to foreign competitors. In 1978/79 the appreciation of the currency was strong enough to raise the prospect of a recession. In this situation the Swiss National Bank increased the money supply dramatically. This expansion is considered the reason for the pick-up of inflation in the subsequent years (see Rich, 1987). Chart 1 shows the development of inflation in the eighties. Inflation is measured from the fourth quarter of a given year to the fourth quarter of the preceding year. As can be seen, inflation rose to almost seven percent in 1981. Although it slowed markedly in 1983 it has, on average, remained well over zero percent.

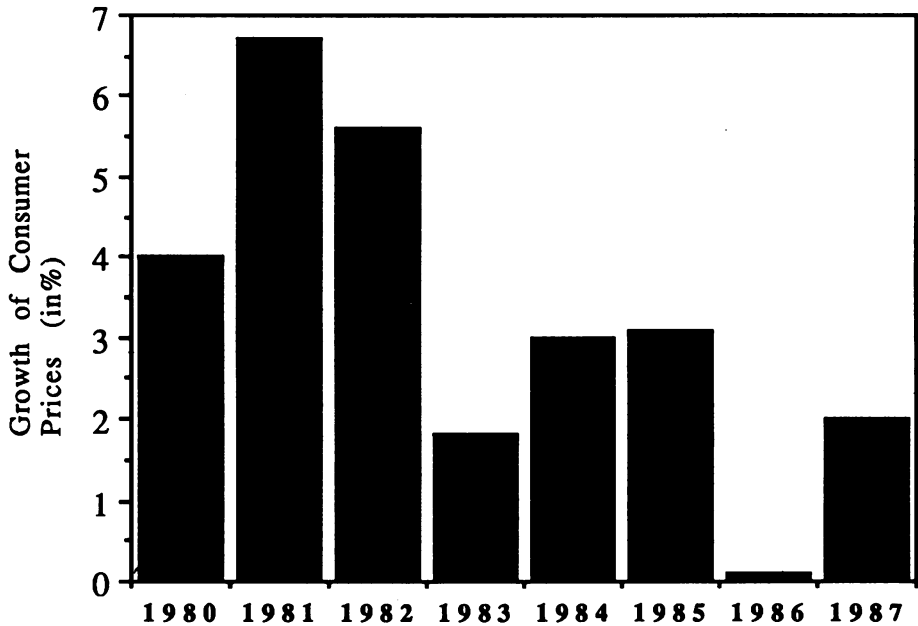
This article investigates the role of money supply and money demand determining the level of Swiss inflation. The analysis shows that money growth accounts for the upward movement of the price level at the beginning of the eighties. However, according to money growth figures, Switzerland should have returned to price stability

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by 1982. The rising opportunity cost of holding money is singled out as the most important reason for this deviation.

The present article is organized as follows. The first section derives an inflation-equation. This equation is based on the notion that the price level is the equilibrating variable bringing real balances to the desired level if the central bank controls the nominal money supply. The second section deals with econometric methodology while the third presents the estimates. The last two sections contain interpretations of the results and conclusions for monetary policy.

Chart 1: Swiss Inflation



1. The equilibrating role of the price level

The role of the price level as the equilibrating variable in the money market can be understood by considering an individual and a market experiment (see *Laidler*, 1985). On the individual level, the adjustment of the money stock does not depend on the monetary regime. Individuals who desire to increase their monetary balances usually find counterparts willing to decrease their balances. For the adjustment on the aggregate level, however, the rules the central bank follows are important. Under a

regime of money stock control, the central bank supplies a certain level of nominal money balances and does not adjust it to changes in aggregate money demand. That means that the central bank does not fix an interest or exchange rate at which the public could obtain all the domestic money it wants in exchange for bonds or foreign money. Hence, the nominal money stock is exogenous for the public.

In this environment the adjustment of real money balances to the desired level is brought about through changes in the price level. For what really matters are deflated money balances, i.e. money balances measured in units of purchasing power. Hence, the public as a whole can adjust real aggregate money balances by bidding the price level up or down. If the economy's need for real balances grows faster than the money supply, the public drives the price level down. Alternatively, if the central bank increases nominal balances at a rate higher than the rate of increase of society's demand for real money balances, inflationary pressures emerge.

This concept is formalized by first writing an equation for society's desired level of real aggregate money balances. Income is used as the scale variable, and the interest rate represents the opportunity cost of holding money. The desired money stock is expected to increase when income rises or when the interest rate falls. Equation (1) is the log-linear form of this function.

$$(m - p)^* = \alpha_0 + \alpha_1 y + \alpha_2 r \quad \alpha_1 > 0, \alpha_2 < 0 \quad (1)$$

The asterisk indicates the desired level and the lower-case letters denote the logs of the variables. These are respectively: m the nominal money stock, p the price level, y real income and r the nominal interest rate. Since m is exogenous under the regime of monetary control, the desired level of real balances implies a desired (or equilibrium) price level.

$$p^* = m - \alpha_0 - \alpha_1 y - \alpha_2 r \quad (2)$$

The public adjusts real balances towards the desired level by moving the price level towards p^* . I do not assume this adjustment to be instantaneous.¹ Instead, the response of the price level to changes in its equilibrium value is written as

$$p_t = \sum_{i=0}^{\infty} w_i p_{t-i}^* \quad \text{with} \quad \sum_{i=0}^{\infty} w_i = 1 \quad (3)$$

This formulation encompasses instantaneous ($w_0 = 1$) and lagged adjustment ($w_0 < 1$) of the price level.

¹ Institutional features like long-term labour contracts can lead to a lagged adjustment of the price level (see *Taylor*, 1979). Modern research on price level inertia focuses on the costs firms have to incur when changing their prices, the so-called menu costs. See *Fischer* (1988) and *Mankiw* (1988) for recent developments in this field.

Replacing p^* by its determinants according to equation (2) yields

$$p_t = \sum_{i=0}^{\infty} w_i (m_{t-i} - \alpha_0 - \alpha_1 y_{t-i} - \alpha_2 r_{t-i}). \quad (4)$$

Equation (4) is the structural formulation of what is called the price level adjustment approach to the estimation of money demand.² It provides the tool for identifying the effects of money supply and money demand on the price level.

The model just outlined differs markedly from a standard Keynesian model. The Keynesian IS/LM model assumes that individuals do not accept any deviation of the money stock from the desired level. If a deviation is imminent in the IS/LM model then the interest rate moves immediately in order to fully restore the balance. The present model is different in that it assumes that individuals treat money holdings like inventories: i.e. they accept fluctuations of the money stock around the desired level. According to this "buffer stock" view of money the public absorbs an excess of aggregate money balances till the price level reaches its equilibrium value. As *Laidler* (1987) points out, this view does not preclude the possibility that the interest rate reacts to a money supply shock i.e. it does not deny the existence of the so-called liquidity effect.³ However, the buffer stock concept assumes that interest rate movements equilibrate the credit market and not the money market.⁴ Thus, a decline in the interest rate after an expansionary monetary shock does not restore monetary equilibrium but leaves a real balance surplus that causes higher prices to be bid, which pushes up their general level.

If a monetary expansion is in fact followed by a decrease in the interest rate then the buffer stock model predicts that the price level increase will be less than proportional to the money stock expansion as long as the interest rate remains below the initial level. Conversely, a decrease in the money supply will result in a less than proportional fall in the price level as long as the interest rate remains above the initial level.⁵ These propositions are probably acceptable for many economists.⁶

² See *Laidler* (1985) for a survey of the various approaches to money demand estimation. Former studies on Swiss money demand (e.g. *Kohli*, 1984; *Vital*, 1978) have made extensive use of the dynamic adjustment hypothesis introduced by *Chow* (1966). However, the *Chow* specification of adjustment dynamics is at variance with the view that the money supply is exogenous and the price level is the equilibrating variable (see *Thornton*, 1985; *Laidler*, 1985). Therefore, I conclude that *Chow's* "real adjustment" hypothesis does not fit the recent episode of monetary control in Switzerland. Incidentally, *Heri* (1986) reports a decreasing explanatory power of the *Chow* specification when the sample contains data only from the flexible-exchange-rate period.

³ See *Thornton* (1988) for a discussion of the liquidity effect and recent empirical evidence for the United States.

⁴ See *Greenfield/Yeager* (1986) on this point.

⁵ This statement can also be made in terms of growth rates. A decline in the growth rate of the money supply of x percent will be followed by a decline in the inflation rate of less than x percent if the interest rate rises as a consequence of the monetary slowing.

⁶ *Niehans'* (1978) macromodels (Chapters 10 and 11) have the property that in the final equilibrium

If, as many believe, an increase in the growth rate of the money supply (as distinguished from a step increase) eventually leads to an increase in the interest rate (because of higher inflationary expectations, the so-called Fisher effect) then our model predicts that the price level will not only follow a path with a higher growth trend, but that an additional upward shift will occur that reflects the reduced demand for real balances.⁷ Thus, our price level model incorporates standard propositions of monetary economics.

2. Econometric methodology

The most commonly used dynamic specification in the money demand literature is the Koyck lag. The Koyck process restricts the lag weights w_i to falling exponentially. It can be derived from a partial-adjustment hypothesis which states that the gap between p and p^* is closed by a constant fraction per unit of time. *Thornton* (1985) gives an overview of applications of the partial-adjustment hypothesis in money demand estimates. In a similar study for Switzerland *Kohli* (1987) presents an estimate of a price level adjustment equation using the Koyck lag specification.

Rötheli (1988) shows that for the price level adjustment approach, the Koyck lag is not chosen when opposed to a more complicated lag process. Among the different orders of the Pascal lag (see *Solow*, 1960), of which the Koyck lag is the simplest (order one), the order two process proves optimal. In contrast to the Koyck lag, the Pascal lag of order two implies a relatively slow adjustment at the beginning of the adjustment process; i.e. it takes time for the price level movement to build up momentum.⁸ Such a lag shape can also be captured by an Almon lag procedure. *Mehra* (1988) uses this technique to estimate U.S. money demand. He shows that his price level adjustment model gives good out-of-sample forecasts of inflation. The Almon lag technique is useful if the parameters can be estimated freely. However, it loses its advantage once restrictions on the parameters are imposed as in equation (4). With the Pascal lag technique, on the other hand, one can easily adopt and test both the restriction that the coefficient of the money stock is one and the restriction that the adjustment lags are identical for all the exogenous variables.

In the following, I use the Pascal lag of order two. In first differences of the variables equation (4) then reads

$$\Delta p_t = (1 - \lambda)^2 \sum_{i=0}^{\infty} (i+1) \lambda^i (\Delta m_{t-i} - \alpha_1 \Delta y_{t-i} - \alpha_2 \Delta r_{t-i}). \quad (5)$$

with fully adjusted prices, the interest rate remains below the initial level and the price level rises less than proportionally to the increase in the money supply.

⁷ See *McCallum* (1989, 117–120) for a concise treatment of the theoretical argument.

⁸ See *Rötheli* (1988) for a graphical presentation and further references with respect to the Pascal lag.

This is the equation (in distributed lag form) that is used for estimation. By estimating the equation in first differences (an inflation equation) we concede, that the actual price level deviates from the level implied by the theory over extended periods of time. However, the assumption of zero mean of the residuals used in the maximum likelihood procedure ensures that the estimated deviations of the price level are transitory. Such deviations can originate from money demand shocks (omitted variables in equation 1) or price level shocks (omitted variables in equation 3).

The adjustment process in equation (5) is infinite. The historical data set, however, are finite. In the present study a simple way of dealing with this problem is chosen:⁹ The inflation data examined start in 1980, while the data of the explanatory variables go back to 1973. Several considerations have influenced this choice. First, the data before 1973 were generated by a different process than equation (5) and should therefore not be included in the estimation of this equation. Second, the Pascal lag weights for lags longer than seven years are very small. Thus, the gain of including longer lags is offset by the loss of further observations. Third, the remaining 32 observations of quarterly inflation rates come from a period with the same targeting procedure: since 1980, the Swiss National Bank has announced annual targets for the monetary base.

3. Estimates

The data used in the estimation are the consumer price index, the monetary aggregate $M1$,¹⁰ the real gross domestic product and either the yield on long-term government bonds or the interest rate on three month Euro-deposits in Swiss francs. The interest rate paid for short-term deposits is usually regarded as a good measure of the opportunity cost of holding money. However, under the expectations theory of the term structure of interest rates, the long-term rate is a weighted average of the current and expected short-term rates. Since the adjustment of the equilibrating variable (the price level) is both costly and sluggish, an interest rate conveying expectations about

⁹ In the former paper the data set uniformly start in 1973. The data of the exogenous variables reaching farther back are represented (in the case of the Pascal lag of order two) either by two truncation parameters (method of free parameters) or by the values of Δp_t in the first two quarters of 1973 (method of determined parameters). The latter method rests on the assumption that the initial values of $E(\Delta p_t)$ can be substituted by the actual values of Δp_t . The sensitivity analysis reported shows that this assumption leads to parameter estimates that vary widely with the starting point of the sample.

¹⁰ The fact that the monetary base is under the control of the central bank does not mean that this aggregate best explains the level of prices. It is usually agreed that $M1$, the level of transaction balances, is a proper measure of the public money stock. A comparison of the explanatory power of the monetary base and $M1$ shows that the latter explains a larger share of the variations of the price level (see footnote 12 for empirical evidence). The fact that $M1$ is not only determined by the monetary authority (through the supply of base money) but also by private agents (through the currency-to-deposit ratio under the control of the public and through the reserve-to-deposit ratio under the control of the banks) makes the control of inflation through monetary base targeting difficult, but not impossible.

future opportunity cost may be the relevant variable for the decisions of the public.¹¹ Therefore, I first estimate equation (5) with the government bond yield. Table 1 contains the estimated coefficients and summary statistics.

Table 1

Estimate of Pascal lag (order two)

Endogenous variable: Δp

Exogenous variables: $\Delta m, \Delta y, \Delta r^l$

$\hat{\lambda}$	$\hat{\alpha}_1$	$\hat{\alpha}_2$	$\overline{R}^2$	DW	SSR
0.819*	0.118	-0.688*	0.38	2.13	0.0009
(43.99)	(0.50)	(6.29)			

Absolute values of t-statistics in parentheses.

* Indicates statistical significance at the 5 percent level.

The adjustment coefficient estimated ($\hat{\lambda} = 0.819$) implies a rather slow adjustment of the price level towards its equilibrium. In the first year following a change in the equilibrium price level roughly 20 percent of the adjustment occurs. It takes two years till half and five years till 90 percent of the adjustment has occurred. The estimate of the Pascal lag specification is also conducted with three different adjustment parameters ($\lambda_1, \lambda_2, \lambda_3$) for the three exogenous variables. A likelihood ratio test does not reject the null hypothesis that these adjustment coefficients are identical ($LR = 1.83, \chi_{0.05} = 5.99$). A test also indicates that the coefficient of the money growth variable can safely be restricted to one ($LR = 0.42, \chi_{0.05} = 3.84$).¹²

The income elasticity of money demand ($\hat{\alpha}_1 = 0.118$) is lower than most estimates of this elasticity reported in other studies for Switzerland. To get the feel of how the outcome of the estimate is affected when α_1 is restricted to a higher value, I reestimate equation (5) twice. In the first round α_1 is restricted to 0.5. A likelihood ratio test does not reject this hypothesis when compared to the unrestricted estimate ($LR = 2.78, \chi_{0.05} = 3.84$). Moreover, the estimates of the two remaining parameters are not strongly influenced by this restriction ($\hat{\lambda} = 0.815, \hat{\alpha}_2 = -0.783$). In the second round the income elasticity is restricted to unity. This parameter restriction is

¹¹ The same argument can be considered for the two other determinants of the price level, money and income. However, only for the opportunity cost variable is there such handy information as a market rate reflecting existing knowledge about the future.

¹² The $\overline{R}^2$ drops to 0.33 if the monetary base is used instead of $M1$. Both $M2$ (0.28) and $M3$ (0.36) lead to a lower $\overline{R}^2$ than $M1$.

rejected even at the one percent significance level ($LR = 12.82, \chi_{0.01} = 6.64$). These results indicate that the inflation data of the eighties do not allow precise measurement of the income elasticity of money demand. Nevertheless, they support the view that the income elasticity of Swiss money demand is lower than one (see *Rich/Béguelin*, 1985).

As an extension, I consider two alternatives for the income variable. Both are designed to capture *permanent* income growth. The first proxy is an eight quarters moving average of Δy . The second proxy is also a weighted average of Δy , but with lag weights declining geometrically.¹³ With the eight quarters moving average of Δy , the $\bar{R}^2$ declines and so does the estimated income elasticity ($\hat{\alpha}_1 = 0.073$). The use of the second proxy implies the estimation of a weight parameter μ . The search for the μ -value that minimizes the residual sum of squares is carried out with step increments of 0.1 ($0.1 \leq \mu \leq 1$). The optimal μ -value turns out to be one. This means that permanent income equals actual income. These results obtained with measures of permanent income growth suggest that additional (expectational) lags that are not already embodied in the Pascal lag structure do not play a role in determining inflation.

Contrary to the scale variable, the effect of the opportunity cost variable comes through very clearly. My estimate of the interest rate elasticity of money demand ($\hat{\alpha}_2 = -0.688$) is in the range of -0.6 to -1.0 reported by *Schelbert-Syfrig* (1967) in her first comprehensive study on Swiss money demand (covering the period from 1931 till 1963). The estimated interest elasticity implies that a permanent increase in the long-term interest rate from 4 to 5 percent leads to a gradual rise of the price level totaling 17 percent after several years.¹⁴

The next estimate uses the yield on three-month Euro-deposits in Swiss francs. Since this interest rate varied over a broad range (between 0.2 and 11 percent), it is appropriate to include this variable untransformed. Table 2 contains the results for the semi-logarithmic specification.

¹³ This formulation of permanent income growth (Δy^P) can be rationalized by an adaptive-expectations mechanism. If

$$y_t^P - y_{t-1}^P = \mu(y_t - y_{t-1}^P) \quad \text{then} \quad \Delta y_t^P = \mu \sum_{i=0}^{\infty} (1 - \mu)^i \Delta y_{t-i}.$$

If μ is equal to one, then $\Delta y_t^P = \Delta y_t$. In the empirical application, the upper limit of i is set to 23 since quarterly data of the gross domestic product are only available as far back as 1967.

¹⁴ It is frequently asserted in the public discussion in Switzerland that the interest rate affects the consumer price index because landlords raise rents (which figure in the CPI) when the mortgage rate rises. It is possible that this effect plays a role in the transmission of interest rate changes to the price level. However, it is not widely appreciated that such an "index-effect" would not be permanent if an interest rate increase did not lift the equilibrium price level.

Table 2

Estimate of Pascal lag (order two)

Endogenous variable: Δp

Exogenous variables: $\Delta m, \Delta y, \Delta R^s$

$\hat{\lambda}$	$\hat{\alpha}_1$	$\hat{\alpha}_2$	$\overline{R}^2$	DW	SSR
0.881*	0.422	-0.049*	0.31	2.02	0.0010
(49.47)	(1.23)	(3.48)			

Absolute values of t -statistics in parentheses.

* Indicates statistical significance at the 5 percent level.

The explanatory value of this specification is lower compared to the specification with the long-term interest rate.¹⁵ The income elasticity is somewhat higher but still not significantly different from zero. Evaluated at the mean of the sample distribution of the interest rate, the elasticity of real money balances with respect to the short-term interest rate is -0.22 . What has been said about the results of Table 1 also applies to Table 2. The interest rate parameter is measured much more accurately (higher t -statistics) than the income parameter.

4. Interpretation of the results

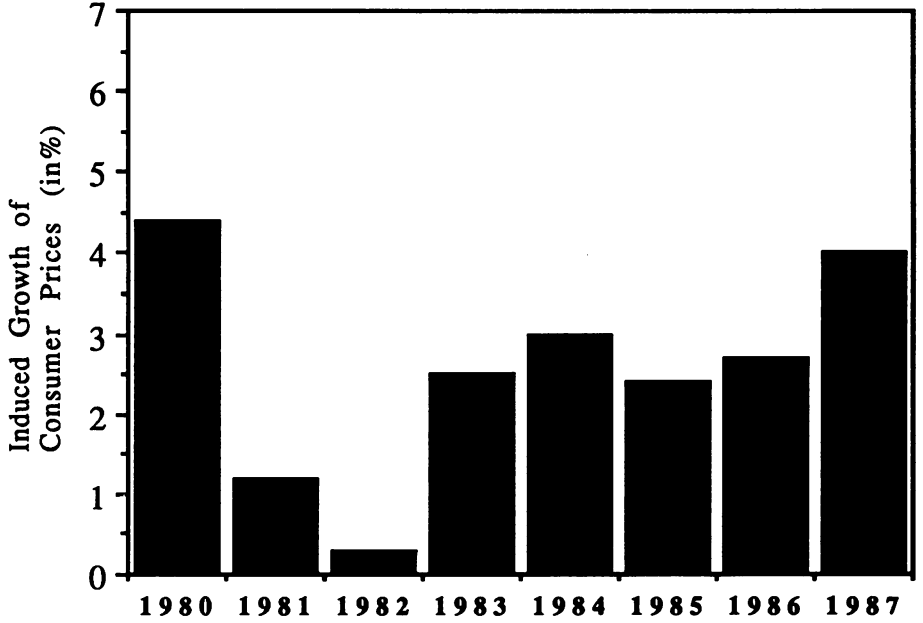
In this section I interpret the inflation history of the eighties in the light of the results obtained in the previous section. The course of the money supply has worked towards an upward movement of the price level in every year between 1980 and 1987. Chart 2 shows this effect. This partial effect (Δp^m) of Δm on Δp is calculated on the basis of the Pascal lag estimate (Table 1) as

$$\Delta p_t^m = 0.181^2 \sum_{i=0}^{28} (i+1) 0.819^i \Delta m_{t-i}.$$

The bars represent annualized inflation rates.

¹⁵ In Røtheli (1988) the same specification with the Euro-deposit rate is used. In that study, the sample for the endogenous variable is from 1973 to 1986. In the estimate that includes two "free" truncation parameters the estimated coefficients ($\hat{\lambda} = 0.868, \hat{\alpha}_1 = 0.393, \hat{\alpha}_2 = -0.042$) are very similar to the ones reported here for the sample 1980 to 1987.

Chart 2: Effect of Money Growth on Swiss Inflation



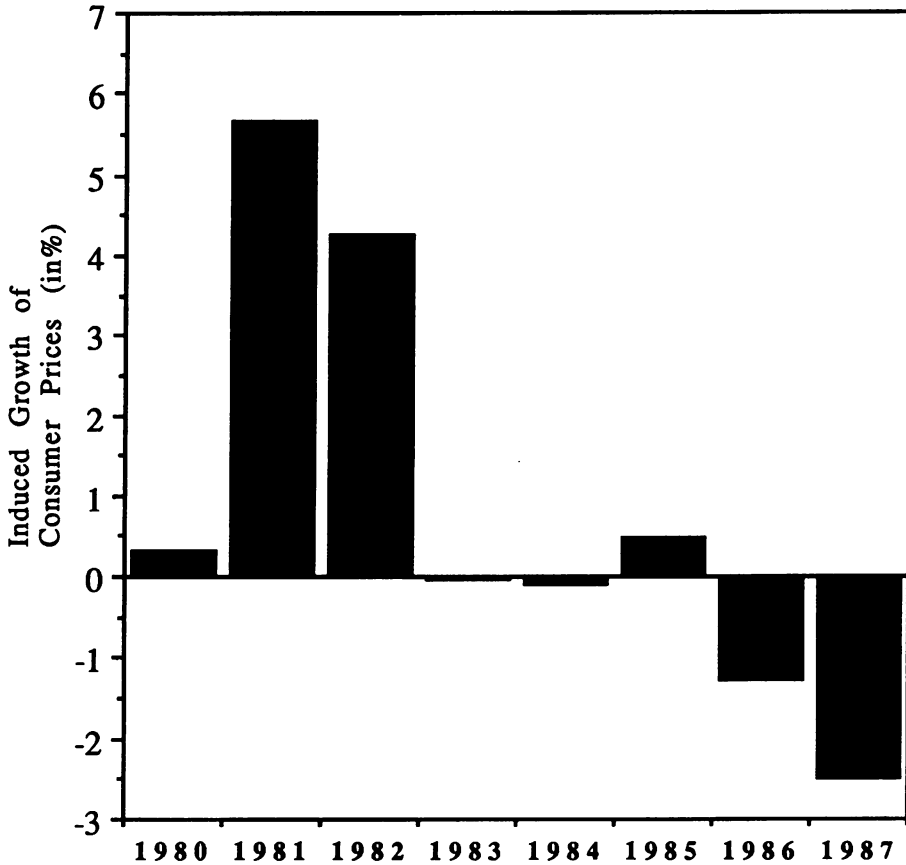
By comparing actual inflation rates (Chart 1) with the partial effect of money (Chart 2) one can make several observations. First, money growth accounts for the level of inflation in 1980. Thus, the inflationary effect of the monetary expansion of the years 1978/79 extends till the early eighties. Secondly, the inflationary pressure of money growth disappeared in the years 1981/82 as a result of the severe tightening of monetary policy in 1980. Nevertheless, inflation rose to higher levels in 1981 and 1982. Hence, the source of inflationary pressure in the years 1981/82 must be looked for among the determinants of money demand.

The estimates have shown that the effect of income growth on inflation cannot be gauged very accurately. Therefore, attention is focused on the other money demand variable, the interest rate. Chart 3 shows the partial effect of interest rate changes on Swiss inflation. This effect (Δp^r) of Δr^l on Δp is calculated as

$$\Delta p_t^r = 0.181^2 \sum_{i=0}^{28} (i+1) 0.819^i (0.688) \Delta r_{t-i}^l.$$

Chart 3 reveals that the elevated inflation rates in 1981 and 1982 (6.7 percent and 5.6 percent) can be attributed to interest rate movements. The long-term interest rate showed a rising trend from 1979 till 1981 and diminished money demand sufficiently

*Chart 3: Effect of Changes of the Long-Term
Interest Rate on Swiss Inflation*



to add 5.7 percent to inflation in 1981 and 4.2 percent in 1982. In the following years current and past interest rate changes more or less cancelled each other out. Only at the end of our sample period does the interest rate effect show up again: had the long-term interest rate not declined from 5.5 percent in the first quarter of 1985 to 3.8 percent in the second quarter of 1987 inflation would have been 4.5 percent in 1987 instead of 2.0 percent.¹⁶

¹⁶ *Poole* (1988) and *Mehra* (1988) conclude from their research that the high level of U.S. inflation in the late seventies is partly the result of sinking money demand due to rising interest rates.

5. Conclusions

Several conclusions for the conduct of monetary policy can be drawn from our observations. These implications are discussed here in an informal manner and in terms that apply to a monetary policy that controls the quantity of money and its growth over time.

Suppose that the only task of policy makers is to stabilize the level of prices over a long-term horizon. This means that they have to see to it that the price level increases in some periods (quarters, years) are compensated by decreases in other periods. The first thing policy makers have to get right in order to ensure a stationary price level is the correct growth trend of the money stock. In a growing economy the supply of money has to keep pace with the rise in income. If the money stock is expanded at a rate equal to the growth of potential output, weighted with the income elasticity of money demand, then secular inflation will be prevented.¹⁷

The econometrical evidence presented in this article suggests that if the Swiss National Bank decided to ensure a stationary price level it would have to bring about a growth trend of $M1$ which is lower than the growth of potential income. Although the estimated income elasticities are not measured very precisely, they are always below unity. If monetary policy is to achieve a secular inflation rate of one percent, rather than zero percent, then $M1$ growth would have to be one percent higher than the baseline growth.¹⁸

The empirical analysis shows that a substantial part of the fluctuations of the price level stem from movements in the interest rate. This article does not provide an analysis of the determinants of the interest rate. Therefore, the conclusions for monetary policy with respect to interest rate movements remain tentative.

Those who believe that the real interest rate (especially the long-term rate) varies very little over time will conclude that the variations in the nominal interest rate are the result of changing inflationary expectations. They will expect monetary policy to ensure that the nominal money stock closely follows a path consistent with a constant rate of secular inflation, i.e. they will demand adherence to an unchanging

¹⁷ We define secular inflation as the level of inflation that is sustainable given constant growth rates of the money supply and real income.

¹⁸ These money growth scenarios are built on the assumption that the $M1$ data are adjusted for possible innovations in the payments system. Such an innovation took place in 1988. At the start of 1988 new liquidity requirements for banks were introduced in Switzerland. The former liquidity requirements had to be met at month-ends only. As a result, overnight money market rates regularly soared at month-ends. In order to benefit from these high short-term interest rates, some bank customers, notably big companies and institutional investors, temporarily switched from sight deposits to short-term time deposits. Under the new liquidity requirements end-of-month peaks in short-term interest rates have vanished, and there is no longer an incentive to engage in such reshuffling from sight ($M1$) to time deposits ($M2$). Since the Swiss National Bank collects data on $M1$ at month-ends only, $M1$ growth soared in 1988 for this statistical reason. As information on the magnitude of this effect is not available, an adjustment of $M1$ has so far not been possible.

money growth target. My conjecture is that the same conclusion would be drawn by those who think that the real interest rate varies considerably, but mainly because of a transitory liquidity effect of monetary policy: steady money stock growth and no monetary surprises will result in a smoother price level path.

Another standpoint emerges if one holds the view that the real interest rate varies substantially due to so-called real factors. A change in the government deficit, a change in the tax on corporate profits, or technical progress which changes the marginal productivity of capital can all affect the real interest rate.¹⁹ A small open economy like Switzerland can be affected by such shocks even when they originate abroad. Hence, those who think that real factors have important and lasting effects on the interest rate will expect monetary policy to try to detect and react to them. Reacting means that the money supply is diminished in case such a factor leads to an interest rate increase and that the money supply is increased in case of an interest rate decrease.

¹⁹ See *Poole* (p. 89) for a hypothetical example.

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Summary

Money Supply and Money Demand Determinants of Swiss Inflation

In this paper I derive and estimate an inflation-equation based on the notion that the Swiss National Bank controls the nominal money supply and the public controls real money balances by changing the price level. The estimates indicate that, besides the money supply, the interest rate is important for the course of the price level. A historical simulation shows that the rising interest rate has diminished money demand enough to add more than four percent to annual inflation in 1981 and 1982.

Zusammenfassung

Geldangebots- und geldnachfrageseitige Bestimmungsgründe der schweizerischen Inflation

In der vorliegenden Arbeit wird ein Inflationsmodell in neuerer quantitätstheoretischer Tradition entwickelt. Neben dem von der Notenbank gesteuerten Geldangebot spielen in diesem Modell auch Schwankungen der Geldnachfrage eine Rolle. Die ökonometrischen Schätzungen zeigen, dass der Zins als Geldnachfragedeterminante einen bedeutenden Einfluss auf die Entwicklung des schweizerischen Preisniveaus hatte. Die historische Simulation zeigt, dass der Rückgang der Geldnachfrage infolge des Zinsanstiegs stark genug war, um in den Jahren 1981 und 1982 mehr als vier Prozentpunkte zur jährlichen Inflationsrate beizutragen. Die Untersuchung belegt damit, dass der Zusammenhang zwischen Zinsniveau und Inflation geldtheoretisch fundiert ist und nicht nur darauf beruht, dass in der Schweiz Zinserhöhungen einen Anstieg der Mieten bewirken.

Résumé

La contribution de l'offre et de la demande de monnaie pour l'évolution de l'inflation en Suisse

Dans cette étude je développe une équation décrivant l'inflation, basée sur la notion que la Banque nationale suisse contrôle la quantité de monnaie nominale tandis que le public contrôle les balances monétaires réelles par son pouvoir d'influencer le niveau des prix. Les estimations indiquent que non seulement l'offre de monnaie mais aussi la demande de monnaie, plus précisément les variations du taux d'intérêt, contribuent significativement à expliquer le cours de l'inflation en Suisse. Une simulation historique indique que la montée du taux d'intérêt a diminué la demande de monnaie d'un montant suffisant pour ajouter plus de quatre pour-cent à l'inflation annuelle dans les années 1981 et 1982. L'étude montre ainsi que le lien entre le taux d'intérêt et l'inflation est fondé dans la théorie monétaire et n'est pas seulement dû à la régularité suisse selon laquelle les loyers montent avec une hausse du taux d'intérêt.