The decoupling of rents from mortgage rates: implications of the rent law reform for monetary policy

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Introduction

In December 2002, after many years of controversies, the Swiss Parliament voted in favour of a thorough reform of rent law. The amendment represented an indirect counter-proposal to the Tenants Association's "Yes to fair rents" initiative, which was rejected in a public vote on 18 May this year. While the initiative would have linked rent adjustments to a smoothed mortgage rate, the proposed amendment decouples housing rents completely from mortgage rates and links them instead to the overall Consumer Price Index (CPI). House owners are allowed to pass the general rise in prices as measured by the CPI onto housing rents each year, provided that the increase does not exceed the average annual rise in consumer prices of the previous two years. In addition, rent increases may be justified by other factors, such as investment enhancing the value of housing. As a second plank of the rent reform, the government is obliged to conduct a regular statistical survey of comparative rents. Rent tribunals will draw on these statistics to decide whether a particular rent is unfair. If a rent agreed on in a tenancy contract is more than 15% above that of a comparable apartment, the tenant can appeal against it after signing the contract. Tenants are also entitled to have their rents reviewed at any time during the tenancy agreement to establish whether they exceed the upper limit (comparable rent plus 15%) and are thus unfair. If ownership of a property changes hands, the rents may be raised to the permitted upper limit, although any increase is limited to a maximum of 10% per year.[1]

The Tenants Association invoked the referendum process against the new rent law even before its "Yes to fair rents" initiative was rejected, claiming that the new legislation might trigger a rent spiral and moreover did nothing to improve security of tenure. The referendum vote is expected to take place in February 2004.

From an economic viewpoint, the most relevant aspect of the new rent law is the stipulation that rents should no longer be linked to mortgage rates but to the CPI. Although such indexation hardly conforms to the principle of market rents that many economists have called for, it offers a number of clear advantages over present rent law:

- Firstly, the interest rate risk is shifted from the tenant to the investor, which can be considered the better place for it in a market economy. For example, increases in mortgage rates would no longer be reflected in a loss in tenants' real incomes but in a reduction in earnings from housing investment. In the longer term, however, the greater volatility of investment earnings could result in a risk premium being factored into rents. But this should be acceptable to tenants, since in return they benefit from more stable rents.
- Secondly, the new rent law can be expected to reduce the volatility of consumer price inflation to some extent. Under the present system, rising mortgage rates in inflationary boom periods typically result in large rent increases, which, given a weight of around 20% in the CPI, further boosts overall consumer price inflation. If rents are linked to the CPI instead, this leverage effect will disappear.
- Thirdly, the new rent law can be expected to enhance the efficiency of monetary policy. If monetary policy is tightened to combat inflation, higher short-term interest rates in general drive mortgage rates up as well. Under current rent law, the intended inflation-reducing effects of higher interest rates (appreciation of the Swiss franc, contraction of aggregate demand) are thus accompanied by a disturbing counter-effect in the form of rising housing rents. This mechanism, which impairs the effectiveness of monetary policy considerably in the short term, would be eliminated if rents were linked to the CPI. Inflation should therefore decline more rapidly in response to monetary tightening.

This paper focuses on this third aspect of the proposed new rent law. In particular, it shows by means of simulations with the SNB's econometric macro-model how the monetary policy transmission mechanism is likely to change with the alternative link of rents to the CPI. A comprehensive appraisal of the new law based on welfare criteria is beyond the scope of this study. Hence, the results do not permit of any assessment as to whether the new rent law is preferable to the present system from an overall macroeconomic perspective.

1 Cf. Fontana (2003) and Federal Council (1999).

The article is structured as follows: Section 1 contains a brief description of the basic structure of the model. Section 2 looks in somewhat greater detail at the mortgage rate and housing rent equations. It also examines the frequently expressed claim that under present rent law increases in mortgage rates regularly result in sizeable rent increases while reductions in mortgage rates are not passed on to tenants in full. Section 3 shows what impact a tightening of monetary policy has on gross domestic product (GDP), its expenditure-side components, housing rents and overall consumer price inflation (the monetary policy transmission mechanism) under present rent law. This baseline simulation is then compared with an alternative in which, on otherwise identical assumptions, housing rents are linked to the CPI. Section 4 provides a summary of the main findings of the study.

1 Basic structure of the model

The macro-model used for the following simulations consists of 30 behavioural equations[2]. A first block of the model contains the equations for the components of aggregate demand. Consumer demand is a function of disposable household income and the real interest rate. Housing investment depends on income and population growth and a profitability indicator which includes construction prices, housing rents and long-term interest rates. Investment in plant and equipment is determined by capacity utilisation and the factor price ratio. Exports and imports are a function of foreign and Swiss economic activity respectively and a measure for the price competitiveness of Swiss suppliers. In their sum, these aggregate demand components together with exogenous government spending define GDP.

GDP determined this way from the demand side of the economy is confronted in the supply block of the model with potential output. This comparison on the one hand results in a measure for the tightness of the goods market (capacity utilisation), which in turn affects investment in the model's demand block. On the other hand, it defines via the production function the demand for labour, which meets a particular supply of labour. This comparison produces a measure for the tightness of the labour market. The two tightness measures represent the driving forces in the wage-price dynamics of the model. A long-run equilibrium with a stable inflation rate is characterised by a certain under-utilisation of the available factors of production, according to the so-called NAIRU concept[3].

Finally, various interest rates and the Swiss franc exchange rate are determined in the model's monetary block. The short-term interest rate (3m Libor) is governed by monetary policy as a function of the cyclical situation of the Swiss economy and movements in the Swiss franc exchange rate. Swiss long-term interest rates are connected to international long-term rates and also influenced by Swiss short-term interest rates. Mortgage rates react to Swiss short and long-term interest rates. Movements in the Swiss franc against the euro are explained by the relative tightness of monetary policy and inflation differentials. In the framework of the complete model, the monetary block plays a stabilizing role. For example, if a positive demand shock were to result in over-vigorous GDP growth and thus an unwanted rise in inflation, monetary policy reacts by tightening. Higher interest rates then curb domestic consumption and investment. At the same time, the restrictive move of

2 The model is described in more detail in Stalder (2001).

3 Cf. Layard, Nickel and Jackman (1991).

monetary policy causes the Swiss franc to appreciate, which also has a negative impact on aggregate demand via foreign trade. However, under the present rent law, the inflation-dampening effect of monetary tightening is hampered by the fact that rising mortgage rates result in higher housing rent inflation.

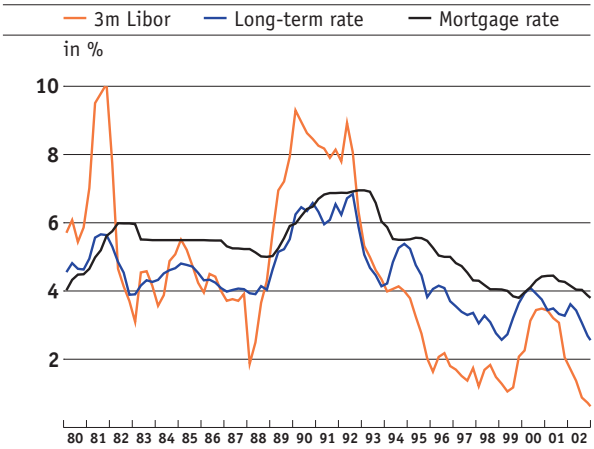
Housing rents play an important role in the inflation process in that they may drive a wedge between firms' selling prices, which influence the profitability of production, and consumer prices, which are crucial for the real purchasing power of wage earners, and so may give rise to an inflationary income conflict. Since wage formation is geared relatively strongly to movements in consumer prices, an increase in consumer prices (pc) due to higher rents (ph) causes wages (w) to rise relative to firms' selling prices (p), implying a deterioration in firms' profitability (the producer real wage w/p rises). But as wages are adjusted only partly to the increase in consumer prices, at the same time wage earners suffer a loss of real purchasing power (the consumer real wage w/pc falls). Firms react to the increase in the producer real wage by raising prices, while wage earners try to offset the deterioration in their real income position by making higher wage claims. If monetary policy is accommodating, this distribution conflict sets off an inflationary spiral. However, if the increase in rents assumed in this thought experiment is caused by a tightening of monetary policy, the moderating influence of lower capacity utilisation on price-setting and of higher unemployment on wage claims ultimately brings the rate of inflation down. But the decline in inflation in response to lower economic activity is impeded by the opposing influence of increasing housing rents on wage and price formation.

2 The modelling of mortgage interest rates and residential rents

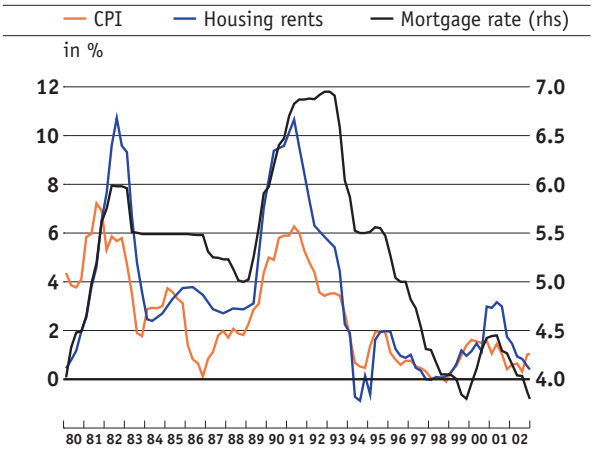
Figure 1 shows the development of short-term interest rates (3m Libor), long-term interest rates (10-year government bonds) and mortgage interest rates (existing mortgages) over the period 1980 Q1 to 2003 Q1. Mortgage rates are generally around one percentage point higher than long-term interest rates. Over time, they follow short and long-term interest rates with a certain lag. From Figure 2 it can be seen that rent inflation was for the most part somewhat higher than general consumer price inflation as measured by the CPI and much more volatile than the latter. The fluctuations in rent inflation appear to be due to mortgage rates.

More formally, these empirical regularities are confirmed by the econometric estimates for the mortgage rate and housing rent inflation.

Interest rates — Figure 1



Inflation (yoy) & mortgage rate — Figure 2



Equation for mortgage rates — Box 1

(1) $\Delta rhypo_t = b_1 \Delta rl_{t-1} + b_2 \Delta rs_{t-1} - \gamma (rhypo_{t-1} - \alpha - \beta_1 rl_{t-2} - \beta_2 rs_{t-2})$

rhypo: Interest rate on existing mortgages (%)
rl: 10-year government bond yield (%)
rs: 3m Libor (%)

Estimation period: 1981 Q1 to 2002 Q4

R^2 = 0.729 Durbin-Watson = 1.800

Standard error of equation = 0.0844

Parameter estimates (standard errors):

b_1 = 0.1946 (0.0378)	β_1 = 0.6344 (0.1154)
b_2 = 0.0509 (0.0123)	β_2 = 0.1882 (0.0546)
γ = 0.1892 (0.0256)	α = 1.6143 (0.4019)

Mortgage rates are a function of long and short-term interest rates in the form of an error correction equation (Box 1). An increase in long-term interest rates (short-term interest rates) by one percentage point has the effect of raising mortgage rates by b_1 = 0.1946 (b_2 = 0.0509) percentage points in the short run (in the next quarter). The corresponding long-term effects, measured by β_1 = 0.6344 (β_2 = 0.1882), are much stronger. Long-term equilibrium is defined by the relation

$$rhypo = 1.6143 + 0.6344\, rl + 0.1882\, rs$$

Deviations in the mortgage rate from this equilibrium relation are reduced at a rate of 18.92% per quarter (error correction parameter γ). With a standard error of 0.0844 percentage points and an R^2 of 0.729 (with reference to the quarterly change in mortgage rates), the equation's fit can be regarded as good.

The relationship between housing rent inflation, general consumer price inflation and mortgage rates is also specified in the form of an error correction equation (Box 2). An increase in mortgage rates by one percentage point has the effect of raising rents by 2.33% in the the current quarter (b_2). Around 26% of general consumer price inflation is passed on to rents in the short term (b_1). The long-term elasticity of rents with reference to the CPI is constrained to β_1 = 1.0, since an unconstrained estimate deviates only marginally from this value. Long-term equilibrium is defined by the relation

$$\ln(ph) = 0.3693 + \ln(pc) + 4.9229\, rhypo + 0.00326\, t.$$

On unchanged mortgage rates, rents rise in the long term by 0.326% more than consumer prices overall (β_3) per quarter. An increase in mortgage rates by one percentage point has the effect of raising the level of rents by 4.9229% in the long term (β_2). Rent deviations from this long-term relation are reduced at a rate of about 17% per quarter (error correction parameter γ). With a standard error of 0.343 percentage points and an R^2 of 0.839 (with reference to the quarterly change in rents) the equation's fit is reasonably good as well.

Equation for residential rents — Box 2

(2) $\Delta \ln(ph_t) = b_1 \Delta \ln(pc_t) + b_2 \Delta rhypo_t + b_3 \Delta \ln(ph_{t-1}) - \gamma (\ln(ph_{t-1}) - \alpha - \beta_1 \ln(pc_{t-1}) - \beta_2 rhypo_{t-1} - \beta_3 t)$

ph: Residential rents
pc: Consumer Price Index
rhypo: Interest rate on existing mortgages/100

Estimation period: 1981 Q1 to 2002 Q4

R^2 = 0.839 Durbin-Watson = 2.109

Standard error of equation = 0.00343
Residual sum of squares = 0.000955

Parameter estimates (standard errors):

b_1 = 0.2604 (0.0962)	β_1 = 1.0 (Restriktion)
b_2 = 2.3299 (0.3017)	β_2 = 4.9229 (0.4564)
b_3 = 0.1581 (0.0801)	β_3 = 0.00326 (0.00011)
γ = 0.1705 (0.0379)	α = 0.3693 (0.0756)

Different reactions to increases/reductions in mortgage rates

b_{21} = 2.9777 (0.476499)	b_{22} = 1.8822 (0.3935)

Residual sum of squares = 0.000920
H_0: $b_{21} = b_{22}$ F-value = 2.8840 P-value = 0.0896

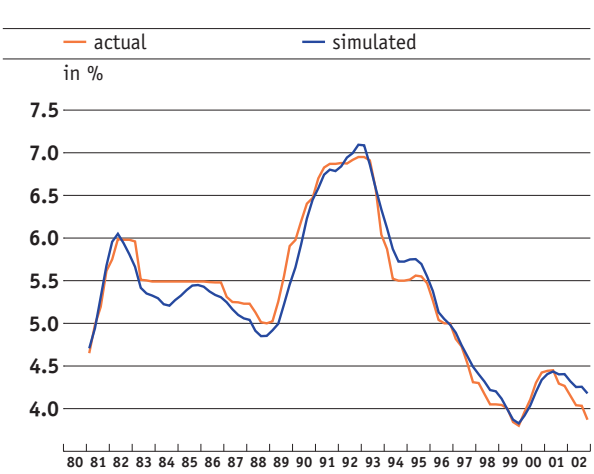
The question of a possible asymmetry in rent adjustments when mortgage rates rise or fall can be addressed econometrically as follows. The variable $\Delta rhypo$ is divided into two variables: $\Delta rhypo^+$ = max($\Delta rhypo$,0) and $\Delta rhypo^-$ = min($\Delta rhypo$,0). When mortgage rates rise, $\Delta rhypo^+$ measures the rise and $\Delta rhypo^-$ is zero. When mortgage rates fall, $\Delta rhypo^-$ measures the decline and $\Delta rhypo^+$ is zero. The estimation of an equation expanded in this way actually shows a somewhat stronger reaction of housing rents to increases in mortgage rates (b_{21} = 2.9777) than to reductions in mortgage rates (b_{22} = 1.8822) (cf. Box 2). Under the constraint $b_{21} = b_{22}$ the expanded equation coincides with the original one. This constraint is not rejected in an F-test with a P-value of 0.0896 at the 5% significance level. The empirical

evidence for an asymmetric reaction is therefore rather weak[4]. The fact that the public does nonetheless feel that there is a marked asymmetry may be due to the fact that rent inflation shows a positive mean value of around 3.6% in the period 1980–2002, which can be explained by increases for other reasons. Consequently, even with completely symmetrical reactions to increases and reductions in mortgage rates, rent inflation hardly ever falls below zero. In other words, reductions in mortgage rates result only in rent inflation becoming lower than the long-term average.

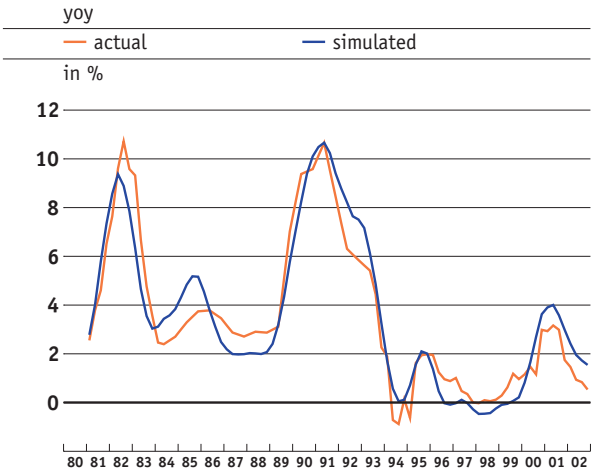
Taken together, Equations (1) and (2) describe the reaction of mortgage rates and rents to changes in short and long-term interest rates and consumer prices. The properties of this sub-system are illustrated in Figures 3 and 4. Figure 3 shows the fit of the two equations in a dynamic simulation using historical values for the three explanatory variables rs, rl and pc.[5] The actual paths of mortgage rates and housing rent inflation are reproduced by the model with satisfactory accuracy (baseline simulation).

Figure 3: Dynamic fit of the equations for mortgage rates and housing rents

Mortgage rates — Figure 3a



Rent inflation — Figure 3b



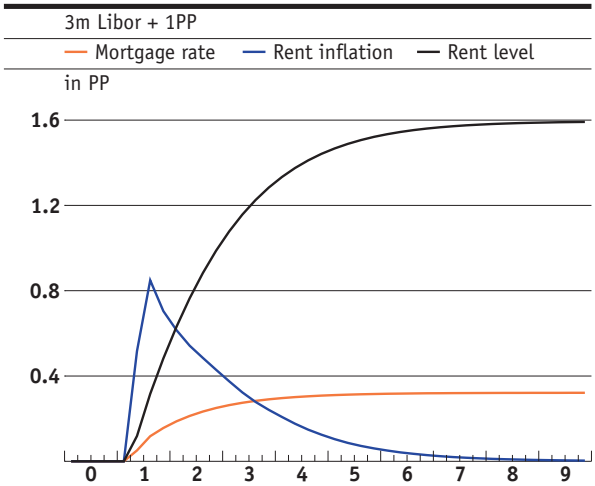
4 A similar distinction between increases and reductions in mortgage rates can also be made with respect to long-term rent developments by cumulating the $\Delta rhypo^+$ and $\Delta rhypo^-$ variables over the estimation period to $rhypo^+$ and $rhypo^-$ level variables and measuring the reaction of rents to these variables with two separate parameters (β_{21} and β_{22}). Statistically, this distinction proves completely insignificant. With values of 4.579 and 5.133 respectively, the estimated values for β_{21} and β_{22} differ only by little and the constraint $\beta_{21} = \beta_{22}$ is readily accepted by the data with a P-value of 0.639.

5 The explanatory variables rs, rl and pc, which are treated here as exogenous, will be endogenous in the simulations based on the complete model.

Figure 4 shows the reaction of mortgage rates and housing rents to an increase in short and long-term interest rates over a time-horizon of nine years (deviations from baseline). Short-term interest rates are raised by one percentage point and long-term interest rates by 0.21 percentage points, corresponding to the average pass-through of changes in short-term rates into long-term rates according to the model's rate term structure equation (not described here). Mortgage rates rise in the first year after the interest rate shock by about 0.2 percentage points and converge in the longer term to a level that is 0.3 percentage points higher compared to the base simulation. Housing rent inflation is driven up strongly by the rise in mortgage rates and, two quarters after the interest rate increase, reaches a peak deviation from baseline of 0.85 percentage points. Thereafter, the effect on housing rent inflation eases off as the mortgage rate increase flattens out. In terms of levels, rents rise in the longer term by slightly less than 1.6% above the baseline path.

Under present law, housing rents may be increased by 2.5% for every quarter percentage point rise in mortgage rates (by 2% when mortgage rates are above 6%, by 3% when mortgage rates are below 5%). In the above simulation exercise, mortgage rates rise by 0.3 percentage points and rents by 1.6%, which implies that a quarter percentage point rise in mortgage rates entails a rent increase of around 1.2%. This corresponds to only about half the statutorily permitted adjustment. One explanation for this might be that a certain proportion – possibly growing over time – of homes are let at market prices and are therefore, even under present law, de facto largely decoupled from the interest costs borne by house owners.

Reaction to a rise in interest rates Figure 4



3 The monetary transmission mechanism – present versus new rent law

3.1 Present law

The simulation outlined above is only a partial analysis. It describes the counter-effect of higher rent inflation under present rent law when monetary policy is tightened. If the move to a restrictive monetary policy is simulated with the overall model, then there are two additional effects: On the one hand, higher rent inflation enters into general consumer price inflation with a weight of 20%, which further boosts rent inflation. On the other hand, higher interest rates have a dampening effect on economic activity through other channels, which counteracts the increase in rent inflation and ultimately leads to lower consumer price inflation. Not only do the higher interest rates curb the domestic components of aggregate demand and thus reduce inflationary pressure; they also cause the Swiss franc to appreciate, which directly reduces imported inflation and at the same time has a negative effect on aggregate demand via foreign trade, thereby further reducing domestic inflationary pressure.

This transmission mechanism is depicted in Figure 5. Again a baseline simulation is compared with an alternative of monetary tightening in which short-term interest rates are raised by one percentage point above baseline values. The figure shows deviations from the baseline simulation in percentage points over a time horizon of 5 years. Long-term interest rates react immediately, rising by 0.2 percentage points, while mortgage rates increase with a lag of one quarter, exceeding baseline values by 0.3 percentage points in the longer term. Thus far, this just replicates the partial analysis described above. In the complete model, the aforementioned effects on aggregate demand reduce GDP growth by a maximum of slightly more than 0.6 percentage points one year after the interest rate increase. Consumer price inflation falls in the first quarter of the simulation by around 0.2 percentage points owing to the appreciation of the Swiss franc caused by the interest rate rise, but increases somewhat in the following two quarters as higher mortgage rates feed through into rents. As a result, one year after monetary tightening, the outcome of the simulation looks rather disappointing from a monetary policy perspective: GDP growth has been reduced by 0.6 percentage points while inflation has fallen by 0.15 percentage points only.

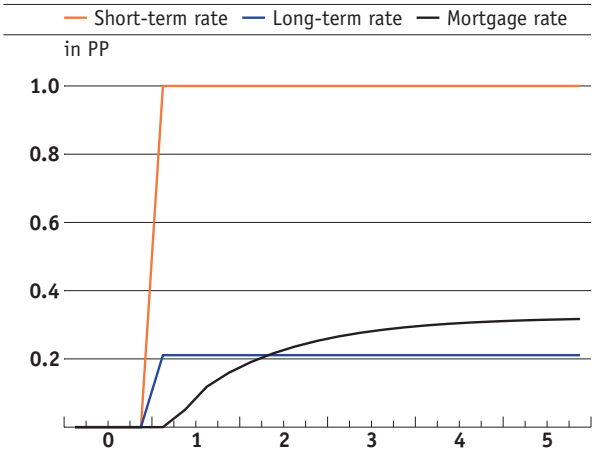
Of the various expenditure components, exports are curbed the most rapidly (appreciation of the Swiss franc) and housing construction investment the most strongly (higher interest rates). The corresponding declines in growth rates reach maxima of 1.2 and 2.9 percentage points respectively. The growth rate of business investment (investment in plant and equipment and business construction) contracts by a maximum of 1.4 percentage points (lower capacity utilisation, higher capital costs). Private consumption reacts sluggishly and suffers comparatively little loss of growth – a maximum of just under 0.5 percentage points (higher interest rates, lower real household incomes); however, lower growth rates persist for several years.

Consumer price inflation as measured by the CPI is subject to opposing influences, in particular at the beginning of the simulation period. On the one hand, imported inflation falls rapidly by 2.3 percentage points. On the other hand, rent inflation increases by around 0.7 percentage points. Inflation on domestically produced value-added as measured by the GDP deflator shows virtually no reaction in the short term. It is not until the output gap widens and unemployment rises that this measure of inflation also begins to fall. In the longer term, the dampening effects of monetary tightening on the various inflation rates converge. Raising 3m Libor by one percentage point reduces consumer price inflation, which is central to the SNB's monetary policy strategy, by around 0.5 percentage points in the longer term (after five years), once the counter-effect of higher interest rates on housing rents has been overcome[6].

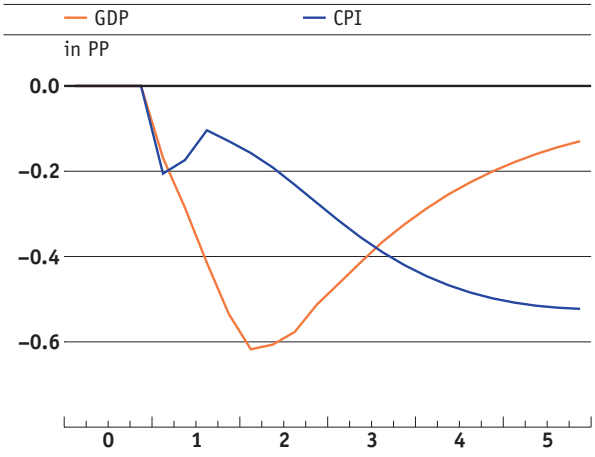
6 The model describes wage-price dynamics in the form of a convex Phillips curve. This reflects the fact that in times of capacity under-utilisation it is mainly real growth that is affected by changes in demand, whereas when capacity utilisation is high it is mainly prices and wages that react to changes in demand. Consequently, the effects of monetary policy on real growth and inflation depend on the state of the economy at the outset. The simulation described here assumes a slightly above-average economic situation. If the economy were in a extreme boom phase, the inflation-reducing effect of the tightening of monetary policy would be somewhat greater and the loss of GDP growth somewhat smaller.

Figure 5: Monetary transmission mechanism under the present rent law
Increase in short-term interest rate (3m Libor) by one percentage point
Deviations from baseline simulation in percentage points

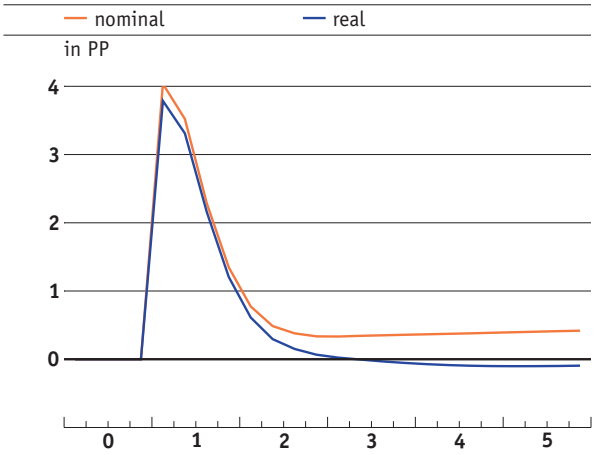
Interest rates — Figure 5a



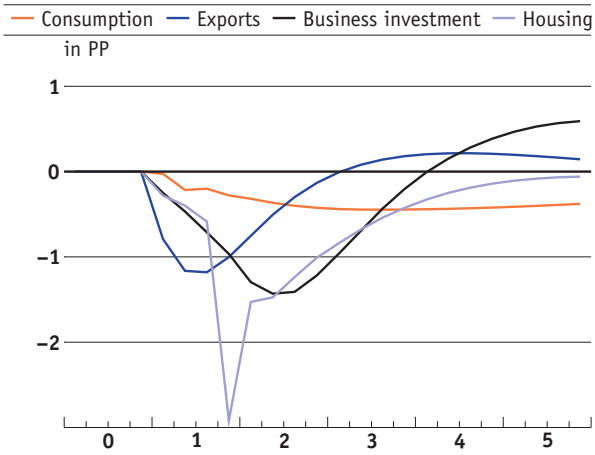
GDP growth & consumer price inflation — Figure 5b



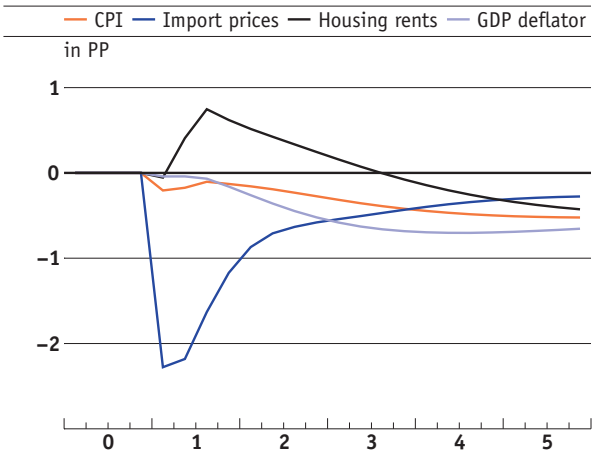
Appreciation of Swiss franc — Figure 5c



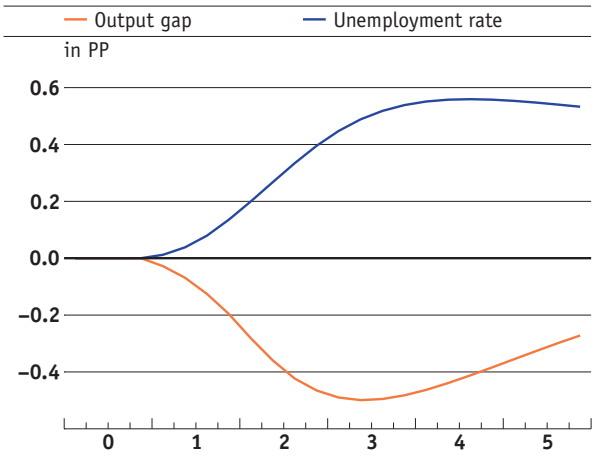
Growth: various demand components — Figure 5d



Various inflation rates — Figure 5e



Output gap & unemployment rate — Figure 5f



3.2 New law

Turning to the simulation of the monetary transmission mechanism under the new rent law, the econometrically estimated Equation (2) for housing rents must be replaced by an equation which takes account of the changes in the law. Of course, in the absence of an empirical database, it is difficult to figure out how the new regulations will impact upon rent formation in practice. In particular, the implications of the criterion proposed to decide whether rents are unfair or not (rents of comparable apartments) are controversial. From a purely monetary policy perspective, however, this aspect of the new rent law seems rather unimportant. If the procedure used to assess the fairness of housing rents was to result in higher rent inflation – as feared by the Tenants Association, for example – this process would take place independently of monetary policy and have hardly any impact on the monetary transmission mechanism itself. In other words, higher rent inflation would be included in the baseline simulation and the effects of a changed monetary policy stance relative to this baseline would not be affected. What is highly important for monetary policy under the new rent law, however, is the fact that housing rents are no longer linked to mortgage rates but to the CPI instead. This removes the counter-effect of higher housing rent inflation associated with a tightening of monetary policy.

A strict indexation of housing rents to the CPI could be represented in the simulation model by replacing Equation (2) with

(2′) $\Delta\ln(ph_t) = \alpha + \Delta\ln(pc_t)$.

A small positive value would have to be assumed for intercept α – as a counterpart to parameter β_3 in Equation (2) – because historically rent inflation has been somewhat more than one percentage point higher than CPI inflation on average. This would ensure that Equation (2′) produces a baseline simulation which in the long term matches the baseline simulation obtained under Equation (2).

Equation (2′) does not, however, reflect the new rent legislation perfectly, because it is the average annual CPI increase recorded over the previous two years that may be passed to housing rents. Consequently, the new law is probably better expressed by an equation like

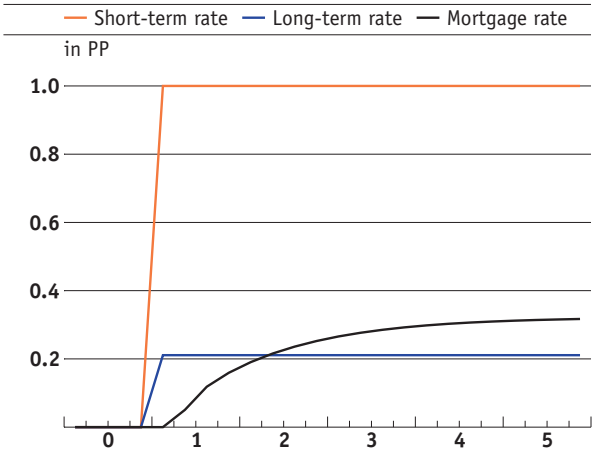
(2″) $\Delta\ln(ph_t) = \alpha + \ln(pc_{t-1}/pc_{t-9})/8$

Compared to (2′), this equation looks somewhat less attractive from a monetary policy perspective since, when monetary policy becomes restrictive, housing rent inflation follows the decline in general consumer price inflation only with a certain lag. With a weight of 20% in the CPI, this lagged response of housing rents will slow down the decline in overall CPI inflation to some extent.

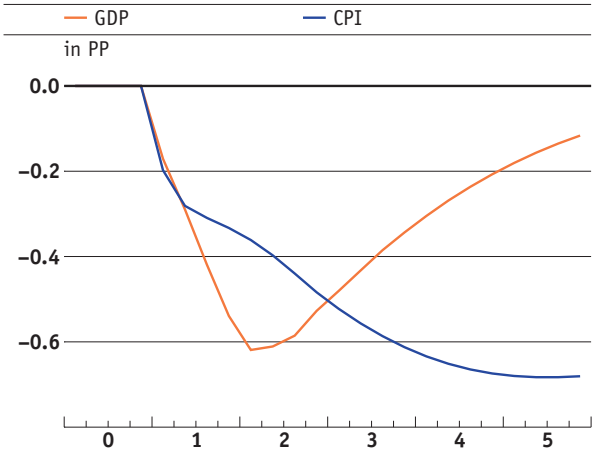
The transmission mechanism using Equation (2″) is shown in Figure 6. What is simulated is again an increase in short-term interest rates of one percentage point. All other assumptions are the same as in the previous simulation as well (Figure 5). As can be seen from a comparison of the two Figures, the transmission mechanism is not fundamentally altered by the new rent legislation but becomes more efficient: With the same monetary policy tightening (an increase in short-term interest rates by 1 percentage point) inflation contracts more rapidly and more strongly. The inflation dampening effect after three quarters is 0.3 percentage points (compared to 0.1 percentage points under present rent law), while after three years it amounts to 0.6 percentage points (0.4 percentage points). In the longer term, inflation is reduced by nearly 0.7 percentage points (instead of 0.5 percentage points under the current legislation).

Figure 6: Monetary transmission mechanism under new rent law
Increase in short-term interest rate (3m Libor) by one percentage point
Deviations from baseline simulation in percentage points

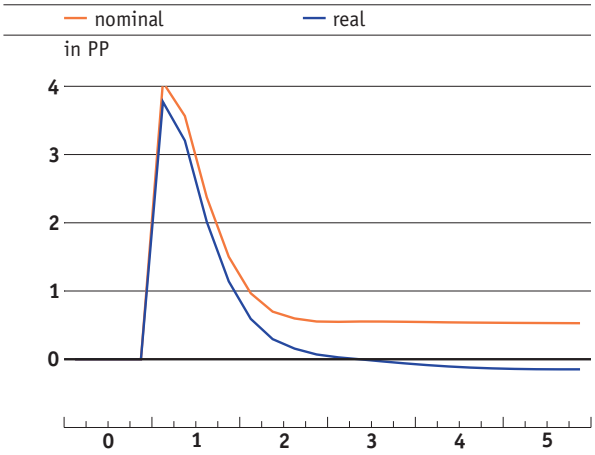
Interest rates — Figure 6a



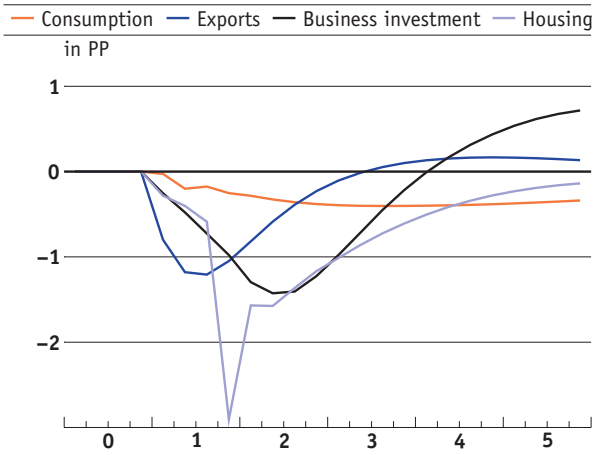
GDP growth & consumer price inflation — Figure 6b



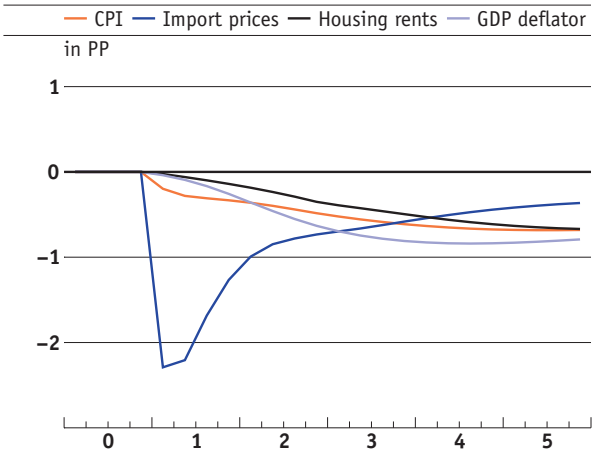
Appreciation of Swiss franc — Figure 6c



Growth: various demand components — Figure 6d



Various inflation rates — Figure 6e



Output gap & unemployment rate — Figure 6f

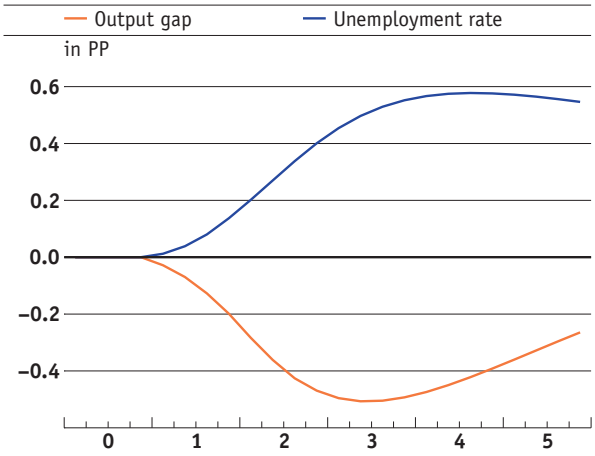
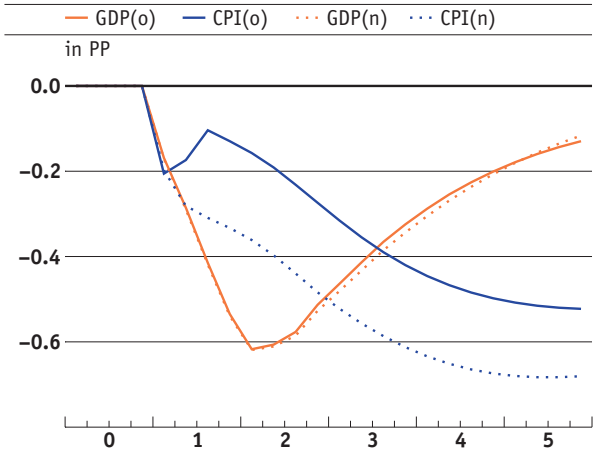
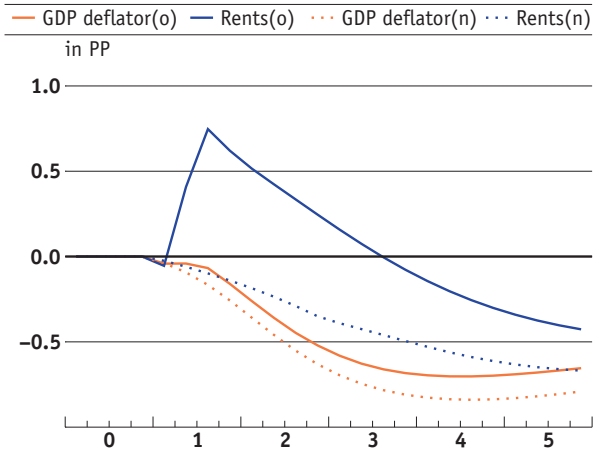


Figure 7: Monetary transmission mechanism: Present (o) versus new (n) rent law
Increase in short-term interest rate (3m Libor) by one percentage point
Deviations from the baseline simulation in percentage points

GDP growth & consumer price inflation Figure 7a



Inflation: GDP deflator & housing rents Figure 7b

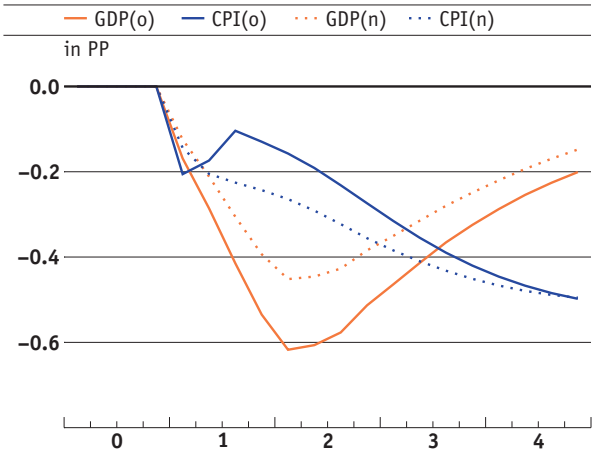


The changes in the monetary transmission mechanism brought about by the new rent law can be seen more clearly from Figure 7, which compares the two simulations for selected variables. The constraining effects of a restrictive move of monetary policy on overall GDP growth under the two rent regimes are virtually identical. Considering the various components of GDP, private consumption is reduced by somewhat less under the new regime because households suffer a smaller loss in real disposable income when housing rents are decoupled from mortgage rates. Conversely, since higher mortgage rates can no longer be passed on to housing rents, monetary tightening depresses the profitability of rented housing more strongly. Therefore, the dampening effect on housing construction is more pronounced under the new rent law. Overall, however, the differences in the monetary transmission mechanism with respect to the real economy are fairly small. The main difference pertains to the behaviour of housing rent inflation, which rises strongly in case of monetary tightening under the present system, whereas under the new rent law it follows the decline in general consumer price inflation with a certain lag, resulting in a quicker and also somewhat stronger reduction of overall CPI inflation. Inflation on domestically produced value-added as measured by the GDP deflator also reacts somewhat more rapidly and more strongly to monetary tightening under the new rent law.

Instead of simulating an identical increase in 3m Libor under both rent regimes, one can also solve the model for the degree of restrictiveness that is necessary under the new rent law in order to achieve the same reduction in inflation as under the present legislation for a one percentage point increase in 3m Libor. As can be seen from Figure 8, under the new rent law an interest rate increase of 0.725 percentage points reduces the inflation rate within four years by the same amount of 0.5 percentage points as a one percentage point interest rate increase does under present rent law. Since the rate of inflation falls more evenly under the new law, the effect on the level of consumer prices on a four year horizon is nonetheless a little stronger (1.4% versus 1.2%). More importantly, though, the decline in inflation under the new rent law is accompanied by a significantly smaller constraining effect on the real economy (lower sacrifice ratio). The maximum loss in GDP growth is limited to 0.45 percentage points, compared to 0.62 percentage points under present rent law. In terms of levels, GDP falls only by 1.1% below its baseline value after four years, instead of 1.5% in case of the present rent law.

Figure 8: Monetary transmission mechanism: Present (o) versus new (n) rent law
Increase in 3m Libor of 1 percentage point (o) and 0.725 percentage points (n)
GDP growth and consumer price inflation: deviations from the baseline simulation in percentage points

Monetary transmission mechanism Figure 8



The simulation results illustrated in Figures 7 and 8 support the decoupling of housing rents from mortgage rates that the SNB has been advocating since years[7]. When raising interest rates under the present regime, the SNB had always to explain to the public that its efforts to combat inflation must be expected to create through higher mortgage rates a disturbing counter-effect on rent inflation in the short run. This is not only a rather delicate communication problem but moreover likely to affect the public's inflation expectations in a manner that detracts from the effectiveness of monetary policy. With the decoupling of housing rents from mortgage rates as proposed by the new rent law, monetary tightening will produce a more rapid decline in the inflation rate. This facilitates the communication of monetary policy decisions to the public and at the same time may be expected – by curbing inflation expectations – to further enhance the intended dampening effects on inflation via the formation of expectations. As the model makes no allowances for such expectation effects, it is likely to underestimate the benefits of the new rent law for the efficiency of the monetary transmission process.

7 Cf. Lusser (1990), Rich (1993) and Roth (2002).

4 Summary

This article examines the monetary policy implications of the rent law reform passed by Swiss Parliament in December 2002. The analysis is carried out on basis of simulations with the SNB's macro-model. Under the present rent law, housing rents are linked to mortgage rates according to a pass-through rule. Contrary to the widespread public impression that house owners pass increases in mortgage rates quickly to housing rents but are reluctant to let tenants benefit from reductions in mortgage rates, the paper does not find clear empirical evidence for such an asymmetry. Irrespective of this result, however, the dependence of housing rents on mortgage rates turns out to be a rather disturbing element in the monetary transmission mechanism. If monetary policy is tightened, the rise in interest rates pushes up mortgage rates and thus housing rents. Since the latter enter the CPI with a substantial weight and consequently feed through quite strongly into wages and firms' production costs, the reduction in inflation that a tighter monetary policy is intended to deliver is almost wiped out in the short run, while real GDP growth is at the same time depressed quite substantially.

Under the proposed new rent law, housing rents are linked to the CPI. Rent inflation will therefore not increase if monetary policy is tightened but decline with a short time-lag on CPI inflation. The simulation shows that the inflation dampening effect of a restrictive move of monetary policy materialises more rapidly and evenly. Hence, a certain reduction in the inflation rate can be achieved by a smaller increase in interest rates and thus a less pronounced loss in real GDP growth. As far as the monetary policy transmission mechanism and the dissemination of information about monetary policy are concerned, the linking of housing rents to consumer prices instead of mortgage rates as proposed in the new rent legislation is therefore to be welcomed.

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