Real Business Cycle Models – Some Evidence for Switzerland

GUIDO KÜRSTEINER* and MARCEL RINDISBACHER**

1. INTRODUCTION

This article examines how the Swiss business cycle differs from the typical pattern of fluctuations observed in many other countries and analyzes how well this pattern can be explained by a RBC model. As proposed by LUCAS (1977), we measure the business cycle phenomenon by the structure of variances and covariances of aggregate time series.

First, we reproduce the stylized facts of the Swiss business cycle as described in DANTHINE/GIRARDIN (1989). DANTHINE and GIRARDIN identify similar cycles for the Swiss and the US economy and interpret their findings as evidence for a common international shock driving the business cycle. An explicit investigation of this hypothesis is presented in ENGLE/KOZICKI (1991) where the existence of a joint process for the G7 countries is found.

In this article we do not investigate if the similarity of stylized facts is caused by a joint real shock, which would explain an international transmission of business cycles, but concentrate on transmission mechanisms of real shocks on fluctuations in the home economy. We therefore use the RBC model of KYDLAND/PRESCOTT (1982) for a closed economy but assume that domestic shocks and shocks from international trade can be aggregated into one single AR(1) process. In this setup we then investigate if an explicit treatment of foreign trade shocks is important for the explanation of economic fluctuations.

The model is restricted to supply side (production) shocks. There are no disturbances from the demand (preferences) side. One of the main features of RBC models is the fact that small distortions in the production possibility set can cause long lasting business cycles. This explanation of the business cycle phenomenon significantly differs from the New-Keynesian literature which sees coordination failures as the main reason for the economy falling into recession and getting caught in low level equilibria (COOPER/JOHN (1988), MANKIW (1985)).

The relative importance of various propagation mechanisms is not analyzed by using estimation methods. Rather, following KP (1982) and PRESCOTT (1986b), we compare second moments of data series with simulated second moments for different parameter

* Yale University, PO Box 206092, Yale Station, New Haven CT 06520, U.S.A.
** London School of Economics, Department of Economics, Houghton St, London WC2A 2AE, U.K.
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values of the model, a procedure which allows us to detect misspecifications of propagation mechanisms. One disadvantage of this simulation procedure is that it does not permit statistical inference about parameter values. The goodness of fit therefore always remains subjective to a certain degree. Despite this drawback we see the method presented here as a useful first step to analyze complicated nonlinear dynamic models.

The sensitivity analysis for the KP model identifies the model parameters which are critical for a reasonable reproduction of the fluctuation characteristics. Our findings support the results of the RBC literature, which finds both the persistence of the exogenous shock, and propagation mechanisms in the technology and preferences to be important for the simulation results. Especially this is true for adjustment costs of capital investments and the nonseparability of leisure consumption, whereas the specific parametrization of other model elements is less crucial.

We proceed as follows. Section 2 describes the measurement of the stylized facts and the problem of detrending, i.e. the definition of the cycle. Section 3 presents the model and the simulation method. Section 4 discusses the grid search over parameters and the calibration of the model's free parameters. Simulation results are summarized in section 5. Section 6 contains concluding remarks.

2. STYLIZED FACTS FOR THE SWISS BUSINESS CYCLE

We measure the business cycle phenomenon by variances and covariances of fluctuations around a trend as proposed in LUCAS (1977), who in turn follows the spirit of an atheoretical definition by BURNS/MITCHELL (1941). Basically RBC models are stochastic growth models and do not give any reason for the separation of growth and cyclical components (KING/REBELO [1989]). The same exogenous stochastic process is considered to be causal for both growth and fluctuations of the economy over time. The filtering and therefore the atheoretical definition of the business cycle phenomenon, as deviations from a smooth growth trend, is justified partly on statistical grounds. A study by BARSKY/MIRON (1989) also shows the importance of seasonal fluctuations for the explanation of the business cycle. This gives further evidence for the necessity of a joint model of seasonal, business cycle and growth components. There is no generally accepted method of detrending and therefore the definition of the business cycle phenomenon is arbitrary to a certain degree. We use a definition which is both statistically treatable and has some justification in the theoretical framework we are working in.

2.1 Stylized facts for the period from 1965 to 1988

Based on the findings of DANTHINE/GIRARDIN (1989), but also to allow a comparison with the results of KYDLAND/PRESCOTT, we remove growth components by the HODRICK/PRESCOTT (HP) filter (see HODRICK/PRESCOTT 1980). Following BAXTER (1991) and BAXTER/STOCKMAN (1989) we check the robustness of the stylized facts by comparing the results for HP filtered series with the results from using deviations from a deterministic trend and logarithms of first differences. The three different filters yield the same pattern of results. Variances of HP filtered series are smaller than those of deviations from a linear trend but larger than those of first differences. In what follows we therefore present only stylized facts for HP filtered series[1]. All series are quarterly data from the Basler Arbeitsgruppe für Konjunktur Forschung (BAK). Series are seasonally adjusted using the CensusX11 filter. The sample period is from 1965 to 1988.

Because there are no time series available for the capital stock and the inventory stock, we have to generate these series from other data. The capital stock is calculated using a proxy for aggregate investments, obtained from the sum of investments in durables, housing and construction plus government investments. For our calculations we use the capital stock estimated for 1965 by DADKHAH/ZAHEDI (1990) and a depreciation rate of 10 percent annually. The resulting series show a relatively constant capital-output ratio of 2.2.

Similarly, the inventory stock is generated using data for the seasonally adjusted change in inventories with an inventory-output ratio of 0.14 for the first realization. A depreciation rate of 2.5 percent per quarter is used. This value may seem rather low, but is chosen to guarantee a relatively constant inventory-output ratio. The main problem in the calculation of the inventory stock is the fact that the series of inventory investments published by the Bundesamt für Statistik contains a statistical residual, leading to a variability of the stock which is probably too high.

To justify the analysis of economic fluctuations by second moments, we first test for unit roots in the HP filtered series using the Dickey/Fuller (DF) test without constant. The null hypothesis of a "unit root" was rejected in a test with a significance level of 5% for all series, except for the generated ones, the capital stock and the inventory stock. The evidence of non-integrated deviations from a smooth HP trend justifies the use of second sample moments to summarize the statistical properties of the series. Because of the evidence for a non-stationary capital and inventory stock, results concerning these series should be interpreted with care. We report the results for these series for reasons of completeness only. The choice criterion for the depreciation rate, which determines the properties of the generated series, was stability of the capital-output ratio and the inventory-output ratio, respectively. The measurement problems involved in the series used to generate the capital stock and the inventory stock, especially for the government investment and for inventory investments, might explain the result obtained in the unit root test. The estimation of the capital and inventory stocks remains an unsolved problem for Swiss data.

For the following description of stylized facts we refer to the tables in the appendix. Output fluctuations are higher than the variation of consumption, hours worked, the

1. For more detailed results see KÜRSTEINER/RINDISBACHER (1991).

average productivity of labour and the capital stock (table 1). The variability of exports, imports, total investments and the inventory stock is larger than for output. Productivity varies more than the capital stock and imports more than exports. An interesting point of difference to the US economy is the almost equal volatility of average labour productivity and hours worked for Switzerland, whereas for the US, hours worked are twice as volatile than productivity. A possible explanation for this fact could be the relatively inflexible labour market in Switzerland[2].

Quantitatively, the results show a standard deviation of consumption two thirds that of output, whereas the variability of total investments and imports are twice the standard deviation of output. Table 2 presents the results for cross-covariances with leads and lags. The correlation with output is bigger for hours worked than for consumption and total investments. The negative correlation of government investment with output is evidence for a countercyclical fiscal policy over the whole sample. We find small correlations between output, the capital stock and the inventory stock.

2.2 Temporal stability of stylized facts

The characterization of economic fluctuations by their second moments is a rather crude measure for the analysis of other aspects of the business cycle like asymmetries of recessions and booms. HAMILTON (1989) for example reports different sample statistics for the contraction and expansion of the US economy. He therefore suggests the estimation of a non-linear model, which explicitly distinguishes the two phases of the cycle. Rather than modelling this asymmetry we just test for a structural break on certain exogenously given dates. A reasonable candidate for the occurrence of a structural break in a small open economy is a change of exchange rate regimes. Following BAXTER (1991) we therefore run a Chow test for the subsamples from 1965 to 1973 (fixed exchange rates) and 1973 to 1988 (floating). The estimated model is from HODRICK/ PRESCOTT (1980),

$$Y_t = \alpha + \sum_{j=-2}^{2} \beta_j x_{t+j} + u_t$$

2. This fact does depend on the choice of the filter. We find the volatility of hours worked to be even lower than the volatility of productivity when using the first difference filter. This gives more evidence of larger rigidities in the labour market and is contrary to findings for the US economy where a high responsiveness of employment to productivity shocks is a crucial feature of the business cycle. The shortcomings of basic RBC models to capture this fact is typically seen as their main weakness and has lead to extensions with different specifications of the labour market (see HANSEN [1985], KYDLAND/PRESCOTT [1988], CHRISTIANO/EICHENBAUM [1992]).

where the dependent variable is detrended output and the explanatory variable is the deviation from the HP trend of one of the other series considered in our study. With a significance level of 5% the null "no structural break" could not be rejected for any of the twelve investigated time series. This finding corresponds to results in the literature on international business cycles (BAXTER/STOCKMAN [1989]), which show no strong dependence of the stylized facts on the exchange rate regime.

Table 1 reports the variability of the series in both samples. All series, except government investment are more volatile in the second subperiod. We find the highest differences of the standard deviations between the two regimes for hours worked, housing investments and inventory investments[3], followed by exports, imports, capital stock and investments in durables. Relative to the volatility of output, consumption and productivity have a lower variability in the floating period while, due to a reduced fluctuation of all investment components (except housing investments), total investments have a higher variability than output during the system of fixed exchange rates[4].

3. THE MODEL[5]

Real Business Cycles models are typically formulated as recursive dynamic equilibrium models, with a representative agent maximizing the present value of a time separable utility function under resource constraints. In this section we give a short description of the RBC model of KP (1982) which we used in our simulations. A special feature of this model is the two-step decision rule, where the optimal number of hours worked n_t and the amount of investment $s_{J,t}$ is determined under imperfect information about the available technology. The agent observes a productivity indicator $p_{1,t} = x_{1,t} + x_{2,t} + \varepsilon_{3,t}$ measuring true productivity with a measurement error $\varepsilon_{3,t}$, where $x_{1,t}$ denotes a permanent and $x_{2,t}$ a transitory productivity shock. The choice of inventories y_t and therefore implicitly of consumption c_t is made under certainty after observing production. This decision is based on the information set $p_{2,t} = \lambda_t$, where λ_t stands for the technology available at time t. The objective function of the agent can be written

3. Compared with the US economy the variability of hours worked is still relatively small.
4. In KÜRSTEINER/RINDISBACHER (1991), we present results for cross-correlations with output. Except for imports and the inventory stock, all series are more strongly correlated with production under a regime of flexible exchange rates. Movements of imports and output are more strongly correlated than those of exports under fixed exchange rates. The capital stock, and government investment are slightly negatively correlated with output for the period from 1965 to 1973 and slightly positively correlated for the rest of the sample. The autocorrelation of output shows a decreasing pattern to lag four for a floating regime and an irregular structure in the first part of the sample.
5. A more detailed description of the implementation including the program code written in GAUSS can be found in KÜRSTEINER/RINDISBACHER (1991).

$$\max_{y_{t+l}} E_t \left\{ \max_{n_{t+l}, s_{J,t+l}} E_t \left[\sum_{l=0}^{\infty} \beta^l \frac{\left[(c_{t+l})^{1/3} \left(1 - \alpha_0 \, n_{t+l} - \eta \, (1 - \alpha_0) \, a_{t+l}\right)^{2/3} \right]^{\gamma}}{\gamma} \, \middle| \, p_{1t} \right] \middle| \, p_{2t} \right\} \forall t$$

The formulation stresses the fact, that the agent has rational expectations and makes plans about his future consumption pattern conditional on his updated information set in each time period. Other important elements of the model, contained in the constraints of the optimization problem, are the propagation mechanisms and the exogenous shocks driving the system. For this model a crucial propagation mechanism is the non time separability of preferences with respect to leisure. This element is introduced mainly to reduce the dependence of hours worked on the real wage. Non time separability is modelled by introducing a stock variable of past work effort. This stock follows an AR(1) process and is depreciated at the rate η.

$$a_{1,t+1+l} = (1 - \eta) \, a_{t+l} + n_{t+l}$$

A further propagation mechanism is captured in the time-to-build structure emphasizing the fact that it takes J time periods for investment projects to become productive capital.

$$\begin{aligned} k_{t+1+l} &= (1 - \delta) \, k_{t+1} + s_{1,t+l} \\ s_{j,t+1+l} &= s_{j+1,t+l} \qquad \forall \; j \in \{1, \ldots, J-1\} \\ i_{t+l} &= \sum_{j=1}^{J} \varphi_j \, s_{j,t+l} + y_{t+1+l} - y_{t+l} \end{aligned}$$

The intertemporal budget constraint captures the trade off between consumption today and total investment, where the consumption possibility set is determined by the aggregate production function $f(n_t, k_t, y_t)$ and the technology parameter λ_t.

$$c_{t+l} + i_{t+l} \leq \lambda_{t+l} \, n_{t+l}^{\theta} \left[(1 - \sigma) \, k_{t+l}^{-\nu} + \sigma \, y_{t+l}^{-\nu} \right]^{-(1-\theta)/\nu} = \lambda_{t+l} f(n_{t+l}, k_{t+l}, y_{t+l})$$

The technology parameter is driven by a stochastic process which is composed of a permanent part, modelled as a highly autocorrelated AR(1) process

$$x_{1,t+1+l} = \rho \, x_{1,t+l} + \varepsilon_{1,t+l}$$

and a transitory part

$$x_{2,t+l} = \varepsilon_{2,t+l}$$

Aggregate productivity is the sum of these two shocks plus a steady state value for λ

$$\lambda_{t+l} = x_{1,t+l} + x_{2,t+l} + \bar{\lambda}$$

In this model, β stands for the discount rate and $\varepsilon_{i,t} \sim N(0, \sigma_i^2)$.
Contrary to a statistical procedure we generate data by simulation of this theoretical model. The properties of the model can be changed by choosing different elements ξ from the parameter space Ξ of the model. The aim of a simulation study is to find the parameter vector which implies the closest resemblance of stylized facts implied by the model compared to those measured empirically. For the model we use in our study we have $\xi' = (\beta, \alpha_0, \eta, \gamma, \theta, \delta, \lambda, \sigma, v, \sigma_1, \sigma_3, \rho, \varphi_i, J)$, where α_0 and η measure the influence of past leisure, $1\text{-}\gamma$ is the parameter of relative risk aversion, θ and υ determine the elasticity of substitution in production and consumption, respectively, σ is the ratio of capital to inventories in the steady state, λ stands for the average level of productivity, ρ determines the persistence of the technology shocks, δ is the depreciation rate of capital, φ_i describes the fraction of total resources devoted to set up new projects, and J determines the number of production periods. A linearized version of this nonlinear dynamic optimisation problem has the following general form (HANSEN/SARGENT, 1988):

$$V = \max_{x_{t+l}} E_t \left[\sum_{l=0}^{\infty} \beta^l x'_{t+l}\, Q\, x_{t+l} \right] \qquad \text{s.t.} \qquad x_{t+1+l} = \Gamma\, x_{t+l} + \Psi\, \varepsilon_{t+l}$$

Here, x_t is a vector of state and decision variables in deviation form, Q is a symmetric, quadratic weighting matrix, Γ is a matrix of linear restrictions, ε_t a vector of error terms and Ψ a matrix determining the effects of the shocks on the vector x_t. For the KP (1982) real business cycles model we have $x'_t = (x_{1t}, x_{2t}, k_t, y_t, a_t, s_{1t}, s_{2t}, s_{3t}, n_t, s_{4t}, y_{t+1})$, where the variables are measuring deviations from steady state rates of growth as formalised in CHRISTIANO (1988). We partition the (11x1) x-vector into state and control variables: $x'_t = (z_t, d_t)$, where the control d_t contains the elements n_t, s_{4t}, and y_t, and the state z_t contains the remaining variables. The Hessian matrix Q of the utility function is partitioned correspondingly:

$$Q = \begin{pmatrix} R & W \\ W' & U \end{pmatrix}$$

Q is a function of the parameters of the utility function, the technology and the information structure. We define the transmission matrices Γ and Ψ as

$$\Gamma = \begin{pmatrix} A & 0 \\ 0 & C \end{pmatrix} \qquad \Psi = \begin{pmatrix} \Phi & 0 \\ 0 & 0 \end{pmatrix}$$

where **0** is a null matrix, and A, C, Φ are matrices of the linear restrictions in the model. A and Φ have dimension (8x8). With these definitions we can write our model in partitioned form making use of certainty equivalence which is implied by the linear quadratic form of the problem:

$$V = \max_{d_t} \sum_{t=0}^{\infty} \beta^t \left(z_t' R z_t + 2 z_t' W d_t + d_t' U d_t \right) \qquad \text{s.t.} \qquad z_{t+1} = A\, z_t + C\, d_t$$

Using Bellman's principle of optimality this optimization problem can be solved by determining the optimal value function V using an iterative procedure where V is equal to the solution P of the Ricatti-equations:

$$P = R + \beta A'PA - (W + \beta A'PC)\,(U + \beta C'PC)^{-1}\,(W' + \beta C'PA)$$

From the first order conditions for the maximum of our optimization problem we can derive the following policy function:

$$d_t = -(U + \beta C'PC)^{-1}\,(W' + \beta C'PA) z_t$$

Substitution into the linear restrictions of the model, $z_{t+1} = Az_t + Cd_t$, yields the following first order difference equation for the pareto optimal time path of the state variables:

$$z_{t+1} = (A - C(U + \beta C'PC)^{-1}\,(W + \beta C'PA))\, z_t + \Phi\, \varepsilon_t$$

For every parameter set ξ we first determine the matrices Q, A and C which then imply a matrix P. Simulations are started at $z_0 = 0$ and new state vectors are generated according to the above first order difference equation. Using a random number generator we obtain values for ε_t influencing the state according to Φ. The generated sequences $\{z_t\}_{t=1}^{T}$ are then detrended using the HP-filter and finally the covariance matrix of the deviations from the trend are used to compare the results with the empirical facts.

4. CALIBRATION OF THE MODEL

The calibration of the model aims at reducing the dimensionality of the parameter space (see KP [1982]) and at restricting the remaining parameter space in a way that makes the model coincide with empirical facts about long run growth. In particular, consistency with capital/output-ratios and the share of labour income is required.

We have no econometric evidence available for the steady state technology λ, the number of construction periods J and the investment shares ϕ_i that suggests different parameter values for Swiss data compared to KP (1982). These are therefore adopted and λ is normalized to one. ROUWENHORST (1991) shows, that the time-to-build structure is not the essential element in explaining persistence in RBC-models, although it influences the reaction pattern of the system to shocks. Moreover KP (1988) estimate an almost identical model with the number of construction periods reduced by one and obtain results very similar to their earlier findings.

Our next task is to determine the parameter values for θ, δ, σ and β. We choose θ according to the procedure proposed in KP (1982) and PRESCOTT (1986b): The parameter θ determines the relationship between labour and capital income in the steady state[6]. For the years 1977 through 1989 we consider the ratio between the sum of labour income plus proprietors' income and GDP[7] minus indirect taxes[8]. This ratio is more or less constant over time, varying between 0.746 and 0.765 without showing any trend. CHRISTIANO (1988) describes the difficulties of measuring its value. There is a danger of overestimating the size of θ, because the position "proprietors' income" can also include capital income. CHRISTIANO estimates an interval for this parameter of 0.57 to 0.75 for US data. We choose a value of 0.75 for θ, where θ is the main determinant of the capital output ratio in the steady state of the model.

We fix the depreciation rate of the capital stock at 10 percent. This yields a value for δ of 0.025, corresponding to 2.5 percent depreciation per quarter. This value is below the 16.3 percent estimated by DADKHAH/ZAHEDI (1990). We use a value of 10 percent because it is consistent with a constant capital/output ratio.

To determine the discount rate β, we have to know the real interest rate. There are controversial views on which asset should be used to determine this return. While SUMMERS (1986) works with the real return on T-Bills, PRESCOTT (1986a) points out

6. Compare KYDLAND/PRESCOTT (1982, p. 1356): total wage income in the steady state corresponds to $n\,w = \theta\,f$, where f is steady state output.
7. We use gross domestic product as our reference value, because we are not including foreign trade in our model.
8. Source of the data: Bundesamt für Statistik, published in "Die Volkswirtschaft", several issues.

that money market returns are not a useful measure for real returns in neoclassical growth models. He proposes a measure for the return on capital constructed from national account figures. BACKUS/KEHOE/KYDLAND (1989) use the average return on the stock market over the last hundred years as an indicator of the steady state return on capital. For our purpose we look at the ex post real return[9] on three months euro-francs. We measure a mean of 0.7 percent annually over the period 1965 to 1988. KUGLER/NEUSSER (1992) estimate the interest rate differential between the USA and Switzerland to be 3.24 percent, with Switzerland permanently having the lower interest rate. Taking into account these considerations and using the fact that KP (1982) work with a parameter value of four percent we set the value of the annual real interest rate equal to 1 percent, corresponding to a quarterly figure of $\beta = 1/(1+r) = 0.9975$.

With this parametrization the capital/output ratio implied by the steady state of the model is equal to 2.28 which is very close to the empirically measured value for Switzerland of 2.277. We now determine the remaining fixed parameters σ and ρ. We follow KP (1982) in choosing the parameter ν from the interval [2,10]. Empirically we measure the average annual inventory/output ratio to be 0.158, from which we determine the ratio of the capital stock to inventories by

$$\frac{k}{y} = \frac{\frac{k}{GDP}}{\frac{y}{GDP}} = \frac{2.277}{0.158} = 14.41 = b_1^{-1}$$

where b_1 is as defined in KP (1982, p. 1361). Given b_1 we can solve for the parameter σ such that the inventory/output ratio of the steady state corresponds to the empirical facts. To determine the value of γ we estimate the growth rate of per capita consumption to be 1.6 percent on average. From the relationship $r = \beta^{-1} - 1 + (1-\gamma)(\dot{c}/c)$ a positive value for γ would result. We restrict the parameter to lie in the interval -0.1 and -1 excluding the limiting case of a logarithmic utility function for $\gamma = 0$.

HANSEN (1985) suggests a procedure of estimating the technology parameter λ which we apply to Swiss data. We calculate

$$\ln\lambda_t = f_t - 0.75 \ln n_t - 0.25 \ln k_t$$

9. Derived from the nominal interest rate correlated for the inflation rate, which we obtain from the consumer price index.

Where f_t stands for quarterly GDP, n_t for the number of hours worked, measured in millions, and k_t for the capital stock at time t[10]. An AR(1) model with an AR(1) coefficient of 0.974 reduces the technology parameter to white noise. In our model we approximate this process by setting $\rho = 0.95$. PRESCOTT (1986) measures the standard deviation of the technology parameter by looking at the standard deviation of $(1\text{-}L)\ln\lambda_t$. For our data this standard deviation is equal to 0.0151 or in percent of the mean of λ_t 0.0151/1.4887= 1.02. PRESCOTT (1986) emphasises that the Solow residual overestimates the volatility of the technology parameter, especially because of measurement errors for labour inputs. The standard deviation of HP-filtered GDP is 2.18 percent in Switzerland, which is 1.21 times the value measured for the US. Therefore we choose the parameters for the error term variances to be proportionately higher than those used in KP (1982). Namely we use $\sigma_1 = \sigma_3 = 1.21 \times 0.009 = 0.0109$ and $\sigma_2 = 0.0018$[11].

The remaining parameters are α_0, η, γ, and ν. They are the free parameters not restricted by the calibration. For our simulation experiment we determine intervals and grid search points for each of these parameters. Values for α_0 and η are constrained to lie between 0.05 and 0.9 whereas ν lies between 2 and 10 and γ between -1 and -0.1. We restrict the search for α_0, η and γ to three points evenly spaced over the intervals and five points for ν.

5. RESULTS

For all parameter sets we compare standard deviations, autocorrelations of output and correlations of state and decision variables with the stylized facts of the Swiss business cycle reported in section 2. From 135 parametrizations we choose two parameter sets of the model (table 3) which seem to fit the characteristics of fluctuations best. Like in other RBC models the criterion function for the evaluation of the best parameter set remains unspecified. Generally the simulations showed that most of the qualitative findings of the model are insensitive to changes in parameter values within the grid search intervals. Especially, the variability of hours worked, consumption and the capital stock are almost identical for all parameter sets considered. We are unable to find a parametrization of the model which can explain the low volatility of consumption and hours worked compared to the stylized facts, although for Switzerland the lack of fit for hours worked is less pronounced than for the US.

The low volatility of hours worked is a weakness of this kind of business cycle models. The difficulties to fit the labour market motivated extended propagation mechanisms,

10. Source: Basler Arbeitsgruppe für Konjunkturforschung.
11. There are differences between the two articles of KYDLAND/PRESCOTT (1982) and (1988) with respect to the determination of the variances. In KP (1988) the variances are chosen to correspond with the empirical variance of the Solow residual. The model is then parametrized in a way that the output variance of the model and the data correspond. In KP (1982) on the other hand the variances are free parameters chosen under the restriction that the output variance in the model equals the variance in the data. Our procedure is similar to that used in KP (1988).

like indivisible labour (HANSEN/SARGENT (1988) and HANSEN [1985]), labour force heterogeneity (KYDLAND [1984]), or the work week capital model of KP (1988). These studies try to explain the high variability of hours worked by introducing additional frictions into the labour market of the neoclassical stochastic growth model.

In table 3, we report our two "best" choices of parameter values for the Swiss business cycle. Corresponding simulation results are given in table 4 and 5. We choose both sets of parameters such that the variance of output coincides with the variance of HP detrended GDP in Switzerland.

The simulation results show that parameter values of α_0 and η greater than 0.5 are needed to achieve a good fit. Increasing η reduces the variance of the output. In parameter set I we use a value for α_0 equal to KP (1982) and in parameter set II an a_0 larger than in KP (1982), whereas η is bigger in both cases. As described in KP (1982) this implies a lower intertemporal substitution of labour, which can be explained by institutional factors like a more regulated Swiss labour market. For γ we find plausible values in the whole range of the grid search (-0.1,-0.55 and -1). The model does not seem to be very sensitive to the degree of risk aversion of the representative agent. The last of the free parameters v is in the range of 4 to 10 for all sensible parametrizations and we choose a value identical to estimates for the US economy[12] for both of our parameter sets. This supports evidence for a low elasticity of substitution in production between capital and inventories, suggested also by KP (1982).

Generally, our simulation experiments yield a correspondence between model and reality which is comparable to that obtained by KP (1982) for the US economy. We get fluctuations in the capital stock which are slightly too high and cannot completely explain the variability of employment. The most important shortcoming of the model concerns consumption. In our model consumption is very smooth with a variability of one third of output fluctuations compared to a volatility ratio of two thirds in reality. This result does not differ from the findings of KP (1982). In general the variability of investments is greater in the model than in reality depending on the definition of the aggregate for investments considered. If government investments are excluded from the total investments, the model explains the stylized facts appropriately.

The major difference in the stylized facts of the Swiss and US business cycle is the almost identical volatility of productivity and hours worked for Switzerland, whereas in the USA hours worked vary considerably more. Parameter set I captures this phenomenon particularly well.

In parameter set I output has a lower persistence of deviations, expressed by a lower autocorrelation coefficient. Generally, parametrization II gives a more appropriate representation of the autocorrelation of GDP, but in both cases AR coefficients are decaying too quickly. Our results for the correlation with output are comparable to the dependence of model variables reported by KP (1982). Consumption and investments

12. See KYDLAND/PRESCOTT (1982).

are highly correlated with output. For both parameter sets, the capital stock is not correlated with output and the correlation of labour and consumption is too high compared to real series.

Finally, the sensitivity analysis in table 6 shows a robust pattern of results. Critical parameters are the parameters describing the intertemporal substitution of leisure and the parameters determining the adjustment costs of investments.

6. CONCLUDING REMARKS

The paper shows that the RBC model of KP (1982) is able to explain the stylized facts of the Swiss business cycle as well as the characteristic pattern of the US cycle. This can be seen as evidence for the RBC view that intertemporal optimization behaviour is the main determining factor of the characteristics of the business cycle. The same "goodness of fit" fit for both an open small and a closed economy suggests that international trade shocks should not necessarily be modelled separately from domestic supply shocks to explain the dynamic movement over time. Therefore, international trade shocks could be interpreted as a component of the exogenous productivity shocks. The question of the importance of international trade shocks for the business cycle of a small open economy in this sense would then be reduced to an analysis of the contribution of the different components to the variance of the Solow residual.

Appendix: Tables

Table 1: Standard Deviations of HP-Filtered Series

Variable	abs. 65-88	rel.65-88	abs.65-72	rel.65-72	abs.73-88	rel.73-88
Capital	0.0069	0.3162	0.0050	0.2829	0.0073	0.3091
Hours	0.0138	0.6324	0.0087	0.4902	0.0158	0.6684
Inventories	0.0670	3.0774	0.0454	2.5448	0.0762	3.2151
Output	0.0218	1.0000	0.0178	1.0000	0.0237	1.0000
Consumption	0.0149	0.6832	0.0139	0.7809	0.0154	0.6517
Investments	0.0477	2.1927	0.0392	2.1989	0.0519	2.1911
Durables	0.0637	2.9264	0.0488	2.7356	0.0706	2.9789
Housing	0.0957	4.3994	0.0611	3.4247	0.1100	4.6447
Construction	0.0495	2.2746	0.0496	2.7791	0.0498	2.1000
Government	0.0292	1.3428	0.0381	2.1366	0.0236	0.9949
Productivity	0.0137	0.6278	0.0135	0.7569	0.0138	0.5846
Exports	0.0352	1.6170	0.0254	1.4221	0.0396	1.6697
Imports	0.0501	2.3004	0.0367	2.0599	0.0560	2.3632

abs. = standard deviation of the cyclical component of the series as obtained through HP filtering. The values shown are normalized by dividing the standard deviation by the mean of the series. rel. = value of the column abs. divided by the standard deviation of output

Table 2: Crosscorrelations with output for HP Filtered Data Series 1965 - 1988

	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Capital	-0.6148	-0.5664	-0.4924	-0.3819	-0.2546	-0.1245	0.0173	0.1622	0.2992	0.4251	0.5234	0.5865	0.6288
Hours	-0.0694	0.0392	0.2428	0.3924	0.5149	0.6384	0.7953	0.8553	0.8270	0.6858	0.5295	0.3905	0.2430
Inventories	-0.3121	-0.3013	-0.2413	-0.1495	-0.0340	0.1566	0.4068	0.5191	0.5728	0.6313	0.6513	0.5897	0.5086
Output	-0.0037	0.1055	0.3241	0.4577	0.5635	0.7427	1.0000	0.7427	0.5635	0.4577	0.3241	0.1055	-0.0037
Consumption	0.2246	0.3739	0.4832	0.5954	0.5965	0.6627	0.7211	0.6092	0.4586	0.3483	0.2235	0.0368	-0.0788
Investments	0.1045	0.2277	0.4174	0.5104	0.5408	0.6332	0.7195	0.7297	0.7019	0.5715	0.3919	0.3507	0.2888
Durables	0.1475	0.2372	0.4119	0.4116	0.4336	0.5899	0.7373	0.6393	0.6191	0.5270	0.3674	0.2941	0.1843
Housing	0.0872	0.2240	0.3999	0.5540	0.5948	0.6225	0.6462	0.7092	0.6371	0.4588	0.2661	0.2115	0.1579
Construction	0.1330	0.2203	0.3479	0.4519	0.4586	0.4815	0.5284	0.6367	0.6412	0.5298	0.3881	0.3902	0.3639
Government	-0.1913	-0.2066	-0.2006	-0.1877	-0.1932	-0.1794	0.1337	-0.0284	0.0752	0.1737	0.2631	0.3819	0.4735
Productivity	0.0640	0.1288	0.2725	0.3350	0.3803	0.5420	0.7918	0.3234	0.0701	0.0436	-0.0122	-0.2213	-0.2479
Exports	0.1835	0.3064	0.4326	0.5133	0.6145	0.5935	0.6314	0.4454	0.1807	-0.0885	-0.1696	-0.3183	-0.4489
Imports	0.3035	0.4066	0.5251	0.6580	0.7145	0.7637	0.7452	0.5688	0.3599	0.1449	-0.0512	-0.2613	-0.3579

Tabelle 3: Parametrization of the Model for Switzerland

	Set I	Set II
β	0.9975	0.9975
α_0	0.495	0.900
η	0.495	0.475
γ	-0.55	-0.1
θ	0.75	0.75
δ	0.025	0.025
λ	1.00	1.00
σ	1.48×10^{-7}	1.48×10^{-7}
ν	4.00	4.00
σ_1	0.0109	0.0109
σ_2	0.0018	0.0018
σ_3	0.0109	0.0109
ρ	0.95	0.95
$\varphi_1 = \varphi_2 = \varphi_3 = \varphi_4$	0.25	0.25

Table 4: Simulation Results for Parameterset I
Means of Standard Deviations and Crosscorrelations with Output from 20 Simulations with 93 Observations

	SD	Crosscorrelations of Variables with Output												
		-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Output	0.0217	-0.2120	-0.0656	0.1411	0.1468	0.3157	0.6020	1.0000	0.6020	0.3157	0.1468	0.1411	-0.0656	-0.2120
	(0.0028)	(0.1200)	(0.1099)	(0.1279)	(0.1310)	(0.1112)	(0.0816)	(0.0000)	(0.0816)	(0.1112)	(0.1310)	(0.1279)	(0.1099)	(0.1200)
Capital	0.0089	-0.2669	-0.2753	-0.2517	-0.3497	-0.3196	-0.2506	0.0350	-0.0697	0.0831	0.3161	0.8111	0.4998	0.2582
	(0.0010)	(0.1414)	(0.1425)	(0.1334)	(0.0776)	(0.1074)	(0.0742)	(0.1040)	(0.1027)	(0.0948)	(0.0962)	(0.0208)	(0.0991)	(0.1268)
Inventories Plus	0.0355	-0.0946	-0.0183	0.2194	0.1583	0.2501	0.4157	0.6809	0.3924	-0.0263	-0.2419	-0.3604	-0.1194	-0.0751
	(0.0031)	(0.0961)	(0.0866)	(0.0902)	(0.1072)	(0.0771)	(0.0785)	(0.0323)	(0.0503)	(0.0720)	(0.1094)	(0.0954)	(0.0876)	(0.1079)
Hours	0.0118	-0.1396	-0.0528	0.2320	0.1399	0.2761	0.4701	0.9202	0.4969	0.1912	0.0323	0.1173	-0.1198	-0.2709
	(0.0014)	(0.1349)	(0.1044)	(0.1318)	(0.1439)	(0.1112)	(0.1081)	(0.0150)	(0.0964)	(0.0961)	(0.1203)	(0.1247)	(0.0827)	(0.1035)
Inventories	0.0272	0.0117	0.0176	-0.0780	-0.1825	-0.2961	-0.3821	-0.3732	-0.5688	-0.5905	-0.4529	0.1319	0.3057	0.2666
	(0.0033)	(0.1565)	(0.1668)	(0.1779)	(0.1489)	(0.1361)	(0.1401)	(0.1266)	(0.0782)	(0.0628)	(0.0517)	(0.0815)	(0.0737)	(0.0719)
Consumption	0.0073	-0.3239	-0.1744	-0.0217	0.0697	0.2476	0.5746	0.9361	0.7159	0.4908	0.3229	0.2197	0.0816	-0.0483
	(0.0011)	(0.0994)	(0.0947)	(0.1048)	(0.1093)	(0.0977)	(0.0623)	(0.0133)	(0.0631)	(0.1114)	(0.1375)	(0.1430)	(0.1473)	(0.1510)
Investments	0.1013	-0.0825	-0.0220	0.2098	0.1991	0.3181	0.4858	0.7012	0.5366	0.1953	-0.0368	-0.3527	-0.2118	-0.1586
	(0.0096)	(0.1156)	(0.1047)	(0.1044)	(0.1169)	(0.0913)	(0.0906)	(0.0496)	(0.0564)	(0.0661)	(0.0998)	(0.0976)	(0.0809)	(0.0979)
Productivity	0.0118	-0.2498	-0.0674	0.0257	0.1306	0.3047	0.6394	0.9187	0.6118	0.3905	0.2412	0.1418	-0.0004	-0.1190
	(0.0016)	(0.0999)	(0.1047)	(0.1106)	(0.1098)	(0.1039)	(0.0649)	(0.0191)	(0.0744)	(0.1144)	(0.1238)	(0.1286)	(0.1344)	(0.1352)
Interest Rate	0.0022	-0.2402	-0.1958	-0.1054	0.0044	0.1556	0.3602	0.5790	0.7369	0.7900	0.7295	0.4932	0.2326	-0.0002
	(0.0004)	(0.1259)	(0.1367)	(0.1650)	(0.1772)	(0.1649)	(0.1342)	(0.1013)	(0.0610)	(0.0419)	(0.0446)	(0.0692)	(0.1021)	(0.1230)
Inventory Inv.	0.0111	-0.0542	0.0023	-0.0995	-0.1053	-0.1136	-0.0862	0.0089	-0.2015	-0.0224	0.1437	0.6061	0.1884	-0.0361
	(0.0009)	(0.0890)	(0.0999)	(0.0856)	(0.0857)	(0.1023)	(0.0602)	(0.0992)	(0.0901)	(0.0764)	(0.0740)	(0.0481)	(0.0778)	(0.0797)

Table 5: Simulation Results for Parameterset II

Means of Standarddeviations and Crosscorrelations with Output from 20 Simulations with 93 Obseravations (SD of Means in Parenthesis)

	SD	Crosscorrelations of Variables with Output												
		-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6
Output	0.0214	-0.1371	-0.0091	0.1279	0.2241	0.4336	0.7164	1.0000	0.7164	0.4336	0.2241	0.1279	-0.0091	-0.1371
	(0.0035)	(0.1104)	(0.1286)	(0.1450)	(0.1617)	(0.1455)	(0.0773)	(0.0000)	(0.0773)	(0.1455)	(0.1617)	(0.1450)	(0.1286)	(0.1104)
Capital	0.0089	-0.3369	-0.3449	-0.3416	-0.3606	-0.3278	-0.2338	-0.0661	-0.0318	0.1391	0.4249	0.7906	0.6466	0.4121
	(0.0015)	(0.1775)	(0.1581)	(0.1535)	(0.1177)	(0.0937)	(0.0795)	(0.0801)	(0.0879)	(0.1153)	(0.0692)	(0.0134)	(0.0767)	(0.1621)
Inventories Plus	0.0354	-0.0759	0.0211	0.1589	0.1859	0.3169	0.5060	0.7109	0.4714	0.0670	-0.2076	-0.3348	-0.1389	-0.0360
	(0.0033)	(0.1039)	(0.1239)	(0.1450)	(0.1404)	(0.1414)	(0.0895)	(0.0320)	(0.0420)	(0.0782)	(0.1171)	(0.1163)	(0.0912)	(0.1024)
Hours	0.0105	-0.0818	0.0184	0.1847	0.2289	0.3827	0.6213	0.9310	0.7225	0.4189	0.1995	0.0941	0.0601	-0.2021
	(0.0017)	(0.1130)	(0.1242)	(0.1450)	(0.1645)	(0.1668)	(0.1006)	(0.0194)	(0.0666)	(0.1289)	(0.1330)	(0.1294)	(0.1116)	(0.0983)
Inventories	0.0280	-0.0668	-0.0903	-0.1726	-0.2397	-0.3057	-0.3714	-0.4488	-0.6229	-0.6326	-0.4392	0.0503	0.3050	0.3232
	(0.0041)	(0.1400)	(0.1407)	(0.1411)	(0.1782)	(0.1866)	(0.1765)	(0.1475)	(0.0826)	(0.0529)	(0.0555)	(0.1010)	(0.1011)	(0.0752)
Consumption	0.0071	-0.2756	-0.1475	-0.0317	0.1001	0.3403	0.6510	0.9408	0.7315	0.5237	0.3481	0.2477	0.1551	0.0596
	(0.0013)	(0.0851)	(0.0962)	(0.1124)	(0.1333)	(0.1187)	(0.0665)	(0.0143)	(0.0786)	(0.1502)	(0.1877)	(0.1796)	(0.1674)	(0.1397)
Investments	0.1024	-0.0379	0.0494	0.1926	0.2397	0.3728	0.5546	0.7522	0.6209	0.2893	-0.0113	-0.2998	-0.2290	-0.1482
	(0.0113)	(0.1197)	(0.1280)	(0.1588)	(0.1664)	(0.1570)	(0.1050)	(0.0406)	(0.0452)	(0.0723)	(0.1101)	(0.1323)	(0.0848)	(0.0902)
Productivity	0.0123	-0.1662	-0.0281	0.0704	0.2007	0.4333	0.7217	0.9519	0.6380	0.4046	0.2257	0.1459	0.0368	-0.0672
	(0.0017)	(0.1049)	(0.1239)	(0.1345)	(0.1520)	(0.1241)	(0.0721)	(0.0120)	(0.0959)	(0.1555)	(0.1784)	(0.1507)	(0.1390)	(0.1153)
Intrest Rate	0.0023	-0.1753	-0.1025	-0.0070	0.1041	0.2459	0.4226	0.6255	0.7715	0.8305	0.7682	0.5429	0.2766	0.0236
	(0.0006)	(0.1227)	(0.1344)	(0.1487)	(0.1706)	(0.1769)	(0.1672)	(0.1302)	(0.0792)	(0.0535)	(0.0566)	(0.0888)	(0.1115)	(0.1277)
Inventory Inv.	0.0102	-0.0360	-0.0309	-0.0973	-0.0822	-0.0812	-0.0785	-0.0908	-0.2043	-0.0092	0.2227	0.5638	0.2975	0.0245
	(0.0007)	(0.1038)	(0.0687)	(0.1086)	(0.0910)	(0.0842)	(0.0767)	(0.0736)	(0.0712)	(0.0906)	(0.0615)	(0.0513)	(0.0598)	(0.1039)

Table 6: Sensitivity Analysis for diffrent Parametrisations
Means from 20 Simulations with 93 Observations

Gamma	-1	-1	-0.55	-0.55	-0.55	-0.55	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Alpha 0	0.05	0.475	0.475	0.475	0.9	0.9	0.475	0.475	0.475	0.475	0.9	0.9	0.9
Eta	0.475	0.475	0.475	0.475	0.05	0.475	0.475	0.475	0.475	0.9	0.05	0.05	0.475
Nu	10	10	4	6	4	4	6	8	10	8	2	10	4
Means of Standarddeviations													
Capital	0.0079	0.0080	0.0090	0.0086	0.0083	0.0083	0.0089	0.0088	0.0082	0.0085	0.0092	0.0081	0.0089
Hours	0.0111	0.0109	0.0119	0.0115	0.0100	0.0096	0.0123	0.0123	0.0119	0.0116	0.0108	0.0106	0.0107
Projekte	0.3519	0.3345	0.4135	0.3592	0.3193	0.3125	0.3851	0.3694	0.3627	0.3815	0.3744	0.2946	0.3462
Inventories	0.0170	0.0168	0.0266	0.0213	0.0275	0.0271	0.0218	0.0190	0.0169	0.0192	0.0398	0.0170	0.0281
Inventories Plus	0.0383	0.0367	0.0421	0.0383	0.0336	0.0332	0.0399	0.0396	0.0400	0.0404	0.0379	0.0337	0.0367
Output	0.0210	0.0211	0.0218	0.0217	0.0210	0.0211	0.0218	0.0222	0.0210	0.0219	0.0212	0.0212	0.0219
Consumption	0.0072	0.0079	0.0074	0.0074	0.0075	0.0077	0.0069	0.0071	0.0065	0.0071	0.0068	0.0070	0.0073
Investment	0.0854	0.0845	0.1010	0.0920	0.0962	0.0945	0.0960	0.0925	0.0890	0.0922	0.1134	0.0862	0.1013
Technology	0.0112	0.0107	0.0109	0.0114	0.0110	0.0112	0.0109	0.0111	0.0110	0.0110	0.0108	0.0113	0.0110
Productivity	0.0117	0.0118	0.0118	0.0120	0.0121	0.0125	0.0115	0.0118	0.0111	0.0119	0.0117	0.0119	0.0123
Intrest Rate	0.0025	0.0024	0.0023	0.0024	0.0024	0.0023	0.0023	0.0022	0.0022	0.0022	0.0022	0.0023	0.0023
Inventory Inv.	0.0084	0.0081	0.0109	0.0093	0.0097	0.0093	0.0096	0.0089	0.0084	0.0088	0.0125	0.0074	0.0100
Autocorrelations of Output													
Lag 1	0.6115	0.6437	0.6225	0.6170	0.7132	0.7071	0.6374	0.6274	0.6148	0.6150	0.6985	0.7061	0.7120
Lag 2	0.3279	0.3695	0.3469	0.3634	0.4517	0.4328	0.3669	0.3598	0.3096	0.3891	0.4371	0.4355	0.4414
Lag 3	0.1619	0.1941	0.1768	0.2001	0.2667	0.2518	0.2207	0.2090	0.1325	0.1513	0.2571	0.2617	0.2731
Lag 4	0.1193	0.1413	0.1405	0.1709	0.1629	0.1313	0.1799	0.1673	0.0895	0.0951	0.1569	0.1448	0.1754
Lag 5	-0.0909	-0.0307	-0.0750	-0.0328	0.0054	-0.0498	-0.0226	-0.0310	-0.0742	-0.1183	-0.0209	-0.0117	0.0152
Lag 6	-0.2282	-0.1610	-0.2142	-0.1446	-0.1398	-0.1858	-0.1598	-0.1535	-0.1949	-0.1883	-0.1770	-0.1549	-0.1469

Table 6 (continued): Sensitivity Analysis for diffrent Parametrisations
Means from 20 Simulations with 93 Observations

Gamma	-1	-1	-0.55	-0.55	-0.55	-0.55	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Alpha 0	0.05	0.475	0.475	0.475	0.9	0.9	0.475	0.475	0.475	0.475	0.9	0.9	0.9
Eta	0.475	0.475	0.475	0.475	0.05	0.475	0.475	0.475	0.475	0.9	0.05	0.05	0.475
Nu	10	10	4	6	4	4	6	8	10	8	2	10	4

Correlations of Modelvaraibles with Output

Capital	-0.0393	-0.0486	0.0229	-0.0014	-0.0756	-0.0765	-0.0152	-0.0298	-0.0735	-0.0517	-0.0025	-0.1116	-0.0403
Inventories Plus	0.2502	0.2895	0.1254	0.2163	0.2678	0.2671	0.2069	0.2436	0.2658	0.2233	0.1105	0.3945	0.2567
Hours	0.9180	0.9186	0.9156	0.9218	0.9366	0.9358	0.9241	0.9260	0.9222	0.9249	0.9369	0.9347	0.9371
Inventories	-0.1305	-0.1939	-0.4130	-0.3102	-0.5351	-0.5257	-0.3535	-0.2488	-0.1619	-0.2869	-0.6006	-0.3016	-0.4934
Consumption	0.8933	0.9499	0.9332	0.9339	0.9681	0.9687	0.9099	0.9156	0.9178	0.9261	0.9451	0.9416	0.9453
Investments	0.7681	0.7769	0.7159	0.7472	0.7532	0.7627	0.7567	0.7746	0.7842	0.7820	0.7010	0.8078	0.7552
Technology	0.3375	0.3203	0.3056	0.3410	0.2789	0.2949	0.3062	0.3264	0.3233	0.3213	0.2719	0.2846	0.2812
Productivity	0.9245	0.9282	0.9106	0.9266	0.9569	0.9617	0.9100	0.9168	0.9104	0.9248	0.9470	0.9483	0.9530
Intrest Rate	0.4974	0.5598	0.6057	0.5921	0.6894	0.6834	0.6193	0.5828	0.4791	0.5568	0.7025	0.5902	0.6816
Inventory Inv.	0.0769	0.0261	-0.0098	0.0426	-0.0852	-0.0811	0.0269	0.0593	0.0328	0.0208	-0.1101	0.0145	-0.0613

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SUMMARY

We analyze the stylized facts of the Swiss business cycle and find only minor differences compared to US time series. This justifies running a simulation experiment using the real business cycle (RBC) model of KYDLAND/PRESCOTT (KP) (1982) which is formulated for a closed economy. The stylized facts obtained in our simulations are as close to effective series as reported in the original paper by KP (1982) for the US business cycle. The lower variability of employment in Switzerland is explained through an appropriate calibration of the model. Finally we present a sensitivity analysis for the KP model.

RESUME

Dans cet article, nous faisons une analyse pour les donnés conjonctures de la Suisse. Les differences en comparison avec les Etats-Unis sont négligables. Ce résultat justifie une simulation avec le modèle de KYDLAND/PRESCOTT (KP) (1982) construite en effet pour une économie fermeé. Les différences dans les donnés simulées en comparison avec les trajectoires réelles sont aussi petites que pour les Etats-Unis. Nous éxpliquons la petite variation du chaumage avec une calibration speciale du modèle. Finalement, nous presentons une analyse de sensitivité pour le modèle de KP.

ZUSAMMENFASSUNG

Im vorliegenden Artikel werden die stilisierten Fakten des schweizerischen Konjunkturverlaufs untersucht. Wir bestätigen den Befund, dass sich die charakteristischen Eigenschaften der Konjunkturdaten kaum von denen der USA unterscheiden. Basierend auf dieser Tatsache führen wir ein Simulationsexperiment mit dem für eine geschlossene Volkswirtschaft formulierten Real Business Cycles Model von KYDLAND/PRESCOTT (KP) (1982) durch. Die dabei erzielte Übereinstimmung von simulierten und effektiven Konjunkturdaten erreicht annähernd gleiche Ausmasse, wie für die USA. Wir erklären die geringe Variabilität der Beschäftigung in der Schweiz durch eine entsprechende Parametrisierung im Modell. Schlussendlich wird eine Sensitivitätsanalyse der Parametrisierung im Modell von KP vorgestellt.