

Spahn, Peter

**Working Paper**

## Unconventional views on inflation control: Forward guidance, the Neo-Fisherian approach, and the fiscal theory of the price level

Hohenheim Discussion Papers in Business, Economics and Social Sciences, No. 02-2018

**Provided in Cooperation with:**

Faculty of Business, Economics and Social Sciences, University of Hohenheim

*Suggested Citation:* Spahn, Peter (2018) : Unconventional views on inflation control: Forward guidance, the Neo-Fisherian approach, and the fiscal theory of the price level, Hohenheim Discussion Papers in Business, Economics and Social Sciences, No. 02-2018, Universität Hohenheim, Fakultät Wirtschafts- und Sozialwissenschaften, Stuttgart,  
<https://nbn-resolving.de/urn:nbn:de:bsz:100-opus-14643>

This Version is available at:

<https://hdl.handle.net/10419/175404>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



UNIVERSITY OF  
HOHENHEIM

200  
1818 2018  
YEARS

Hohenheim Discussion Papers in Business, Economics and Social Sciences

# UNCONVENTIONAL VIEWS ON INFLATION CONTROL: FORWARD GUIDANCE, THE NEO-FISHERIAN APPROACH, AND THE FISCAL THEORY OF THE PRICE LEVEL

**Peter Spahn**

University of Hohenheim

Institute of Economics

02-2018

Discussion Paper 02-2018

**Unconventional Views on Inflation Control: Forward Guidance, the Neo-Fisherian Approach, and the Fiscal Theory of the Price Level**

Peter Spahn

Download this Discussion Paper from our homepage:

<https://wiso.uni-hohenheim.de/papers>

ISSN 2364-2084

Die Hohenheim Discussion Papers in Business, Economics and Social Sciences dienen der schnellen Verbreitung von Forschungsarbeiten der Fakultät Wirtschafts- und Sozialwissenschaften. Die Beiträge liegen in alleiniger Verantwortung der Autoren und stellen nicht notwendigerweise die Meinung der Fakultät Wirtschafts- und Sozialwissenschaften dar.

---

Hohenheim Discussion Papers in Business, Economics and Social Sciences are intended to make results of the Faculty of Business, Economics and Social Sciences research available to the public in order to encourage scientific discussion and suggestions for revisions. The authors are solely responsible for the contents which do not necessarily represent the opinion of the Faculty of Business, Economics and Social Sciences.

**Unconventional Views on Inflation Control:  
Forward Guidance, the Neo-Fisherian Approach,  
and the Fiscal Theory of the Price Level**

*Peter Spahn\**

*January 2018*

*Abstract*

In recent years, various "unconventional" views have been advanced that promise to offer new analytical insights and policy approaches that are suited to control the value of money, particularly in a constellation of low growth and unemployment. Whereas Forward Guidance attempts to decrease the real interest rate by low nominal rates and by creating excessive inflationary expectations, the Neo-Fisherian approach suggests to increase nominal rates immediately to the long-run equilibrium value that corresponds to the inflation target. The Fiscal Theory of the Price Level believes that goods prices jump to a level that validates the long-run sustainability condition of government debt. All three views are criticized for analytical and empirical reasons.

*Key words:* interest rate policy, zero-lower bound, low-growth equilibrium

*JEL Classification:* E52, E58

\* Institute of Economics (520)  
University of Hohenheim  
D-70593 Stuttgart  
peter.spahn@uni-hohenheim.de

## I. Introduction

Old and modern theories of monetary policy, and also the norm of central bank independence, are built on the belief that central banks are able to control inflation. The successful practice of bringing down inflation from double-digit figures since the 1970s justifies this old view, already established by the Quantity Theory of Money – whether central banks use money supply as an active tool or not.

However, monetary policy in some advanced countries seems to have difficulties to raise inflation from a level that does not conform to the conventional 2% target. Many central banks have engaged in what they call "unconventional" policies since the late 2000s. The ECB responded to the malaise by choosing "more of the same", i.e. by enlarging its QE programs. Instruments and supposed channels of transmissions however are hardly different from conventional policies, as described in old textbooks: open-market policies, albeit more aggressive than formerly known, and complemented by "qualitative" features. Modern macro theory had excluded these policies from its suggested toolset because interest setting appeared to be sufficient and more efficient than balance sheet operations.

Some new considerations have also been proposed in recent years which have more direct analytical relations to the modern theoretical apparatus of New Keynesian Macroeconomics (NKM). Economists recommend alternative tools to be applied in order to reach the old and new target of monetary policy: determining the rate of inflation, now in a somewhat unusual direction compared to the former task of stabilisation policy. Included in the list of possible strategies we find Forward Guidance (FG), the New-Fisherian view (NF) and an application of the Fiscal Theory of the Price Level (FTPL); the latter of course might be assigned to fiscal policy in the first place, but the alleged transmission mechanism nicely corresponds to the way of thinking in modern monetary theory so that it will also be treated here. The program of this paper is to discuss whether these new views offer convincing insights. In all three cases the answer will be negative. Finally, it is argued that these unconventional approaches to inflation control are not needed anyway – there is no "puzzle of missing inflation", and central banks should steer their course "back to normal".

## II. Forward Guidance and Raising the Inflation Target

Announcing the direction of future interest setting on the part of central banks has been a rather standard element of monetary policies already in the past. This quite easily can be ex-

plained by the forward-looking character of policy making which includes prospects of the future path of target variables, in most cases the rate of inflation, and the corresponding employment of suitable instrument choices. From this point of view, FG may simply be defined as the practice to communicate prospective steps of the central bank decision making process, which however in no way constrains the flexibility to react to new data or insights. "FG rightly does not implicate an unconditioned fixation of the monetary policy course. It is a prediction of this course based on the ECB's Two-Pillar Strategy" (Sachverständigenrat 2017: para. 365, my translation).

But there is also a second interpretation of FG which points to a particular twist of central bank strategy, namely to announce an *overshooting* of inflation in relation to the target for a considerable time period. The reason for resorting to this kind of strategy is the aim to let the economy recover from a deep-seated crisis, so that a particularly low real rate of interest is warranted. The credible announcement of keeping the central bank's policy rate below the Taylor rate that corresponds to the primary inflation target  $\pi^*$ , even when a constellation of macro equilibrium, full employment and  $\pi = \pi^*$  is reached, is supposed to push inflationary expectations beyond the target rate.

This type of FG strategy is encumbered with a series of problems. To begin with, it requires some control over long nominal interest rates as well, because otherwise a successful increase of expected inflation might drive up bond rates via the Fisher effect, and the aim of lowering the real interest rate cannot be reached. In this context, the ECB holds the opinion that term premia will be lowered<sup>1</sup>, but it is unconvincing to ignore the inflation risk factor. Thus in practice, central banks ought to peg the term structure in order to reap the full benefits of FG.

The literature is more concerned with an alleged time inconsistency problem (Illing 2015). Assume that the policy works and the macro equilibrium with  $\pi = \pi^*$  is reached much earlier, thanks to the extraordinary decrease of the real interest rate. In that situation, which

---

<sup>1</sup> "The aim of forward guidance may be to introduce greater monetary policy accommodation when the policy rate reaches the interest rate lower bound and cannot be reduced further, by providing assurance that the central bank intends to keep the policy rate low for some time, and for a longer period than the public initially expected. The information provided by the central bank that the policy rate is very unlikely to be raised for some time influences investors' expectations regarding future short-term rates and, through that channel, puts downward pressure on longer-term interest rates. In fact, it contributes to extracting duration risk from the market by reassuring investors that the interest rate risk implicit in holding long-dated fixed-income securities is reduced. This awareness encourages portfolio shifts into longer maturity assets and a compression of long-term yields" (ECB 2014: 67).

conforms to an optimum with regard to the original policy loss function, the central bank clearly has an incentive immediately to stop the low-policy-rate course and return to standard Taylor interest rate setting. Anticipating such a "cheating" behaviour, the public will distrust any announcement pointing to inflation overshooting; thus inflationary expectations will remain in the realm of  $\pi^*$ , the warranted depression of the real interest rate fails and the economy is stuck in stagnation. This type of time inconsistency problem might be particularly severe in a country that is renowned for its stability-oriented monetary policy in the past.

A more fundamental question is whether market agents place too much confidence in policy announcements at all, irrespective of their intentions. This question leads to the core of the FG strategy, and to the FG puzzle which arises from the finding that the communication effect *in theory* is implausibly large, compared to what could perhaps be observed in reality (*Figure 1*). Using the framework of a standard New Keynesian macro model, it can formally be demonstrated that the number of periods in which the central bank policy rate is below its ordinary Taylor level, has a cumulative positive effect on output and inflation. The transmission mechanism is given by rational expectations; this includes the assumption that people are able to use the model and calculate the macro impact of future interest rate policy (Gertler 2017).

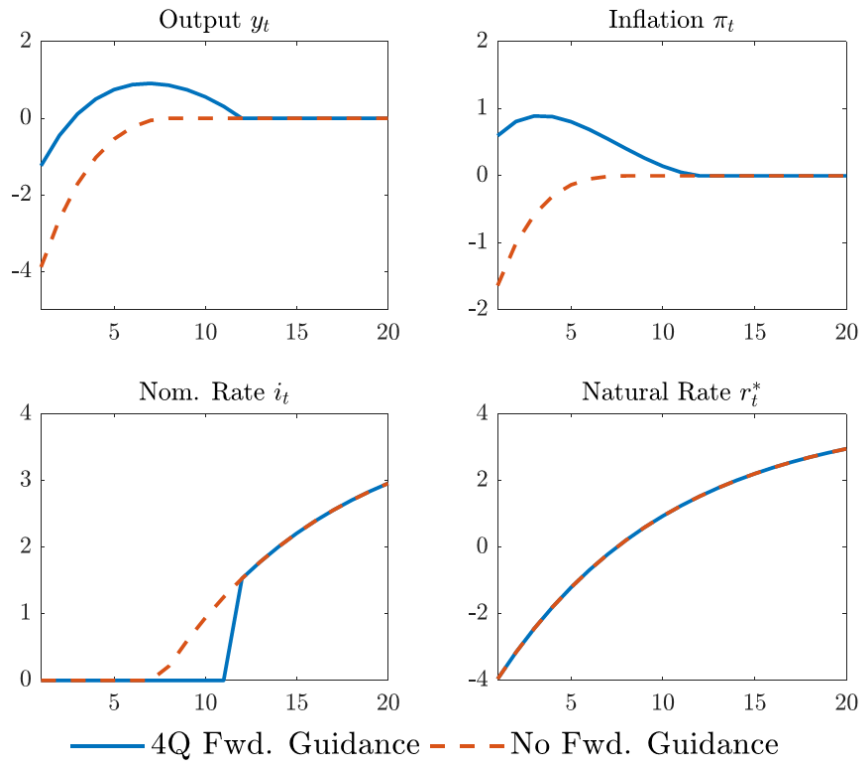


Figure 1: Forward Guidance under rational expectations (Gertler 2017)

It is noteworthy that a comparable effect to FG, in theory, can be realised by changing the inflation target, which also has been suggested recently as a means to strengthen economic recovery and to establish a higher level of nominal interest rates that gives a larger "safety belt" in case of adverse demand shocks (Ball 2014). With FG, the public is supposed to believe in a temporary higher target, whereas the announcement of a new target in general holds until it might be reset in the future. Another difference is that a temporary deviation from the Taylor policy interest rate is highlighted with FG, whereas a reset of the inflation target leaves the implicit path of policy rates in the background. But of course, inflation targets and policy interest rates are connected through the macro model. Therefore they share the same strength and weakness as strategic tools.

The key weakness of FG is the assumption of rational expectations coupled with a generally shared belief that monetary policy is technically able to control the rate of inflation. In fact, it seems awkward in a sticky zero-inflation constellation to propose a 4% target when the central bank obviously and steadfastly fails to reach its traditional 2% target. Gertler (2017: 3) concludes that "individuals need direct evidence that the central bank is capable of moving inflation to target" – but in this case, a macroeconomic control problem that needs to be solved by FG does not exist. In a model with hybrid beliefs, compiled by rational and adaptive expectations where the latter respond to forecast errors, he finds a much weaker effect of FG.

An assessment of FG as a monetary policy strategy aiming to control inflation, on the one hand, should acknowledge the endeavour of central banks to enhance the transparency of their prospective policy course. On the other hand, just communicating intentions will not convince market agents that monetary authorities actually are willing *and able* to achieve a new course of macroeconomic variables. Overshooting inflation expectations, which might serve to confirm a successful FG strategy, cannot be found in the data (*see below*). People rely on experience when building their expectations. It is the crucial drawback of modern macro theory since Lucas that adaptive expectations are regarded as a kind of scientific error that is to be avoided at any costs when it comes to model building. This will become evident also in the next example.

### **III. The Neo-Fisherian View**

#### *III.1. Turning Arbitrage Upside Down: NKM as Bubble Economics*

The NF view differs crucially in its policy recommendation from FG: interest rates should not be kept "low for longer" but rather immediately be increased to the level implied by the infla-



tion target. In order to grasp the scientific background of the proposal, it is useful firstly to take a look at a controversy on the dynamic structure of modern macro theory. The standard NK model [1] consists of a supply function, a demand function and an interest rate rule, where  $E_t$  is the expectation operator.

$$\begin{aligned}\pi_t &= \beta E_t \pi_{t+1} + \alpha y_t + \varepsilon_t^s \\ y_t &= E_t y_{t+1} - \sigma (i_t - E_t \pi_{t+1} - r^*) + \varepsilon_t^d \\ i_t &= r^* + \pi_t + \tau_\pi (\pi_t - \pi^*) + \tau_y y_t\end{aligned}\quad [1]$$

In a more compact vector-matrix notation this can be written as

$$\mathbf{v}_t = \mathbf{A} E_t \mathbf{v}_{t+1} + \mathbf{b} \pi^* + \mathbf{C} \mathbf{s}_t \quad [2]$$

where  $\mathbf{v}_t$  ( $E_t \mathbf{v}_{t+1}$ ) denotes the vector of (next period's expected) inflation  $\pi_t$  and output gap  $y_t$ ;  $\mathbf{s}_t$  is the vector of white-noise supply and demand shocks,  $\varepsilon_t^s$  and  $\varepsilon_t^d$ , respectively. All model parameters (defined as non-negative) are captured by the matrices  $\mathbf{A}$  and  $\mathbf{C}$ , and the vector  $\mathbf{b}$ ;  $\alpha$  denotes the slope of the supply function, depending on market structure and price setting conventions;  $\sigma$  expresses the intertemporal elasticity of consumption, taken from households' optimisation calculus. The short-term nominal interest rate  $i_t$  is set by the central bank; the equilibrium real interest rate  $r^*$  drops from the equations. Ignoring shocks, the solution<sup>2</sup> can be calculated as

$$\mathbf{v}_t = \begin{bmatrix} \pi_t \\ y_t \end{bmatrix} = (\mathbf{I} - \mathbf{A})^{-1} \mathbf{b} \pi^* = \begin{bmatrix} \pi^* \\ 0 \end{bmatrix} \quad \text{if } \beta \rightarrow 1 \quad [3]$$

Dynamic stability requires both eigenvalues of matrix  $\mathbf{A}$  to be smaller than unity. With regard to the reaction coefficients  $\tau_\pi$  and  $\tau_y$ , this implies that the Taylor Principle holds:

$$\tau_\pi + \frac{1-\beta}{\alpha} \tau_y > 0 \quad [4]$$

If the variables of a dynamic system [2] are not pre-determined but depend on expectational leads only, besides the fundamental solution [3], there is formally always a bubble solution showing an explosive path of endogenous variables. Solving [2] for  $\mathbf{v}_{t+1} = E_t \mathbf{v}_{t+1} - \mathbf{e}_{t+1}$ , where  $\mathbf{e}_{t+1}$  indicates expectational errors, and transposing backwards for one period, yields a differ-

---

<sup>2</sup>  $\mathbf{I}$  denotes the unity matrix. With the discount factor  $\beta < 1$ , the solution deviates slightly from the ordinary equilibrium value  $y_t = 0$ , which is implied by the money neutrality proposition (Woodford 2003: 246).

ential equation, the dynamics of which are determined by past values.

$$\mathbf{v}_t = \mathbf{A}^{-1} \mathbf{v}_{t-1} - \mathbf{A}^{-1} \mathbf{b} \pi^* - \mathbf{e}_t - \mathbf{A}^{-1} \mathbf{C} \mathbf{s}_{t-1} \quad [5]$$

The value  $E_t \mathbf{v}_{t+1}$ , built from [5], satisfies equation [2]. The process [5] therefore represents a formal solution of [2]; but it is explosive, contrary to [3]. The eigenvalues of  $\mathbf{A}^{-1}$  are not both smaller than unity, just because the Taylor coefficients are positive. From this, Cochrane (2011) concludes that hyperinflation and deflation cannot be excluded in case of Taylor interest rate policies; the emphasis given to the fundamental equilibrium solution [3] is but a convention, warranted for economic policy reasons.

It should be stressed that the foregoing argument represents a minority view in modern macro theory. A key objection is that the system of equations cannot simply be "inverted", so that [5] ensues, because economic causality in NKM states that inflation and output are determined by their expectational leads, but not by an extrapolation of their past values. Equation [5] thus suggest the wrong logic of market behaviour (Woodford 2003: 128). Cochrane (2011: 582) however sticks to a pure mathematical view when he states that "the equations of the model do not specify a causal ordering".<sup>3</sup>

Lending support to Cochrane's view requires the assumption that market expectations follow the process, described in [5], and derive a further increase of inflation from its increase in the past. If however the central bank exerts constraints on output and inflation through higher real interest rates in that case, rational expectations will be anchored on equilibrium values, captured in [3]. Hence, in a scenario of sticky prices, which is the standard assumption in NKM where monetary policy has some control over the real market interest rate, Cochrane's argument should be rejected (McCallum 2009).

Circumstances might be different however if markets are characterised by perfect price flexibility. With the parameter  $\alpha$  approaching infinity, output equals its equilibrium level, i.e.  $y_t = 0$ , and the supply function drops from the NKM system [1]. The consolidation of the demand function (simplified by omitting shocks)

$$0 = -\sigma \left( i_t - E_t \pi_{t+1} - r^* \right) \quad [6]$$

and the interest rule (where the response to the output gap is ignored)

---

<sup>3</sup> Cochrane's reluctance to follow the ordinary understanding of the NKM equation can perhaps be explained by his scientific background as a financial market economist: the formal structure of the NKM model resembles the well known asset valuation equation, which also is purely forward looking, and might switch to bubble paths in case of severe market shocks.

$$i_t = r^* + \pi_t + \tau_\pi (\pi_t - \pi^*) \quad [7]$$

yields, after eliminating the nominal interest rate, the relation

$$\pi_t = \frac{1}{1 + \tau_\pi} E_t \pi_{t+1} + \frac{\tau_\pi}{1 + \tau_\pi} \pi^* \quad [8]$$

This is a purely forward looking equation, with the fundamental solution

$$\pi_t = \pi^* \quad [9]$$

which is convergent because of  $1/(1 + \tau_\pi) < 1$ .

But again, as in [5], there is a hypothetical bubble path corresponding to [8] where  $\omega_t = E_t \pi_t - \pi_t$  shows the expectation error:

$$\pi_t = (1 + \tau_\pi) \pi_{t-1} - \tau_\pi \pi^* - \omega_t \quad [10]$$

Here inflation is a diverging process on account of  $1 + \tau_\pi > 1$ . For Cochrane, this is a realistic threat. He interprets the modified demand equation [6] as a permanently satisfied condition of Fisher's Nominal Interest Theorem, whereby the market real rate of interest then no longer performs as a macroeconomic control variable.

But this interpretation is questionable. In Fisher's theory, the nominal interest rate is an endogenous variable, determined by the real rate and expected inflation; but in [7] it is fixed by the central bank responding to the inflation gap. Hence, equation [6] can only hold if expected inflation adjusts to the policy interest rate, i.e.  $\Delta E_t \pi_{t+1} = \Delta i_t$ . This is the core of Cochrane's message (2016: 2): "In a frictionless model, the real interest rate  $r_t$  is unrelated to monetary policy and inflation. So, if the Fed sets the nominal rate  $i_t$ , expected inflation must follow." Fisher's arbitrage theorem is turned on its head. If this scientific twist is accepted, everything else seems to follow inevitably: as the interest rule prescribes  $\Delta i_t = (1 + \tau_\pi) \Delta \pi_t$ , any shock would trigger cumulative inflation driven by Taylor-oriented central bank policies – indeed a paradox result.

Of course, this scientific twist can and should be disputed. At first glance, just like the policy rate  $i_t$ , inflation expectation  $\Delta E_t \pi_{t+1}$  in [6] is an exogenous term: we cannot force market agents to hold a particular expectation, just in order to keep some model's equation in balance. In formal terms, [6] simply is over-determined and cannot describe any market behaviour. Still it is an open issue how a value for  $\Delta E_t \pi_{t+1}$  will be found in the market sphere. If the central bank is unable to control the real interest rate, agents likewise cannot assume that inflation is driven by monetary policy. If persistent shocks are excluded, one might say

that inflation is indeterminate. But this is exactly what lends support to the establishment of the fundamental solution  $\pi_t = \pi^*$ , as a kind of conventional or sunspot equilibrium.

To summarise, it is surely innovative to describe the NK model as a bubble-prone system, but the scientific practice simply to invert the causal ordering of macroeconomic equations is hardly convincing. Moreover, the assumption necessary to lend at least some integrity to the bubble view, perfect price flexibility, is far beyond any empirical backing. Nevertheless, the preceding discussion serves to give a useful background for a minority approach in monetary policy debates that urges central banks to *raise* policy rates in order to achieve an escape from a low-inflation, low-employment macroeconomic scenario: here, nominal interest rates are regarded as determinants, rather than being determined by, inflation expectations.

### *III.2. Raising Inflation Through Higher Interest Rates?*

Cochrane (2016) and his adherents assume the Fisher Equation to be a stable long-term relationship that has a strong bearing on market agents' beliefs and behaviour. According to that view, a central bank that sticks to a zero-interest-rate policy, aiming to trigger a macroeconomic expansion, unintentionally contributes to the persistence of stagnation; agents are supposed to deduce from low a low policy interest rate via the Fisher Equation that the true inflation target also is low. Choosing a policy rate level according to  $i_t = r^* + \pi^*$ , on the contrary, would help to anchor inflation expectations at the old target level, i.e.  $E_t \pi_{t+1} = \pi^*$ , and thus preclude slipping off into deflation.

The latter recommendation of course contradicts the standard wisdom of stabilisation policy where rising interest rates at least in the short run lead to a macroeconomic contraction. Market agents in general will side with this view, although they will also believe that in the long run the Fisher Equation holds. Thus there is a puzzle which might be resolved: do people consider interest rate increases to be of short-run or long-run duration?<sup>4</sup>

In spite of sketchy empirical evidence in favour of this two-sided finding, some crucial issues come up: Do people really think in terms of long-term macroeconomic laws? Do they

---

<sup>4</sup> "Nominal interest-rate increases that are expected to be temporary, lead, in accordance with conventional wisdom, to a temporary increase in real rates that is contractionary and deflationary. By contrast, nominal interest-rate increases that are perceived to be permanent cause a temporary decline in real rates with inflation adjusting faster than the nominal interest rate to a higher permanent level. [...] Credible announcement of a gradual return of nominal rates to normal levels can bring about a swift convergence of inflation to its target level without negative consequences for aggregate activity" (Uribe 2017).

believe in the ability of central banks to steer the economy according to their targets, so that market expectations adjust perfectly to communicated changes in the realm of policy aims and tools? Critics regard macroeconomic analyses with perfect-foresight equilibria less useful for practical purposes. Among others, García-Schmidt and Woodford (2015) retreat also from the rational expectations principle which has been an apparently indispensable cornerstone of macro theory since the 1980s. They propose the analytical tool of "temporary reflection equilibria" representing a permanent learning process of market agents. As already mentioned in the debate on FG, this return to an advanced version of the adaptive-expectations view rules out that simply communicating new policy target values or new durations of policy instrument operations will help to overcome a low-inflation stagnation.

A model-based analysis of the NF promise is a difficult task. The macroeconomic constellation of countries that are in need of unconventional stimulus is best to be described as "below equilibrium"; modern macro theories however start their considerations and simulations from equilibrium, as a rule. With that proviso, one might have a look at the consequences of a change of the inflation target in a standard NK model where the implicit assumption is that the economy is in a low-inflation equilibrium at  $\pi_t = \pi^*$ ; the central bank announces a higher rate for a variable length of time. The model simulation explores how the path of the nominal policy interest rate has to be designed.<sup>5</sup>

$$\begin{aligned}\pi_t &= \beta (1 - \theta) E_t \pi_{t+1} + \theta \pi_{t-1} + \alpha y_t + \varepsilon_t^s \\ y_t &= (1 - \theta) E_t y_{t+1} + \theta y_{t-1} - \sigma (i_t - E_t \pi_{t+1} - r^*) + \varepsilon_t^d \\ i_t &= r^* + \pi_t + \tau_\pi (\pi_t - \pi_t^*) + \tau_y y_t\end{aligned}\tag{11}$$

For that purpose, the model presented above is enriched in order to capture the effects of different market structures and market behaviour. A variable dose of persistence  $0 < \theta < 1$  has been incorporated in the supply and demand functions, a modification that finds justification in various analytical arguments and empirical findings. The inflation target now follows an AR(1) process

$$\pi_t^* = \varphi \pi_{t-1}^* + \delta_t\tag{12}$$

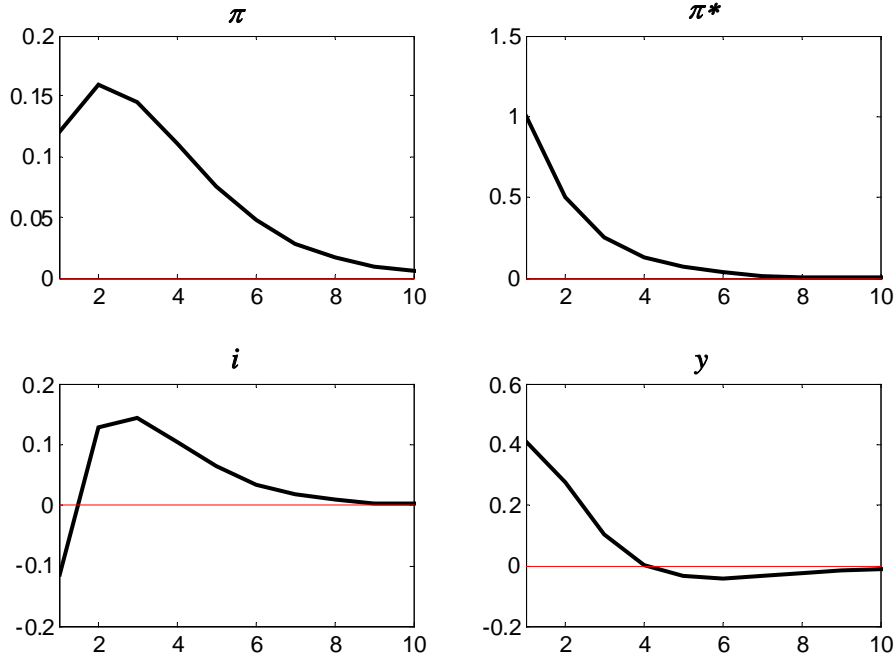
where  $\delta_t$  indicates a one-time deviation that persists depending on  $\varphi \leq 1$ .

The simulation shows the expansionary result of a target innovation  $\delta_t$  that necessarily

---

<sup>5</sup> For similar exercises see Hagedorn (2011), Amano et al. (2016), Gabaix (2016), Gerke/Hauzenberger (2017) and particularly Garín et al. (2016).

forces an adjustment of the nominal interest rate path (*Figure 2*). An arbitrary, middle-of-the-road choice of parameters confirms the traditional finding that a lowering of the rate is required to stimulate the economy – this contradicts the NF view where nominal rates should be raised right from the start. Of course, the results depend on chosen parameters. In accordance with what has been found in the literature, a flat supply curve (low  $\alpha$ ), a large weight given to output persistence and adaptive expectations (high  $\theta$ ), a weak response to the output gap (low  $\tau_y$ ), and a high probability of returning to the old inflation target (low  $\varphi$ ) contribute to counter the NF proposal (*Figure 3*). Conversely, these results support the current practice of central banks to keep interest rates low.<sup>6</sup>



*Figure 2: Model simulation (deviations from steady state) after temporary change of inflation target. Parameter values were chosen as  $\alpha = 0.1$ ,  $\beta = 0.99$ ,  $\sigma = 1$ ,  $\tau_\pi = \tau_y = \theta = \varphi = 0.5$ .*

Taking stock, the proposal urging central banks to raise interest rates to a level that conforms to the Fisher Equation and the warranted inflation target  $\pi^* > \pi_t$  seems to assume that people build their expectations by looking at long-run equilibrium conditions in economic theory. There is little empirical support for such a view. Even if agents agree that a higher level of inflation will also lead to a corresponding nominal interest rate, they will hesitate to believe that

---

<sup>6</sup> The probably deleterious consequences of persistent low interest rates for allocative efficiency and dynamic stability of asset markets are beyond the focus of the current paper.

higher interest rates will bring about higher inflation. Again, it is a case of attaching a false causation to an arbitrage relationship.

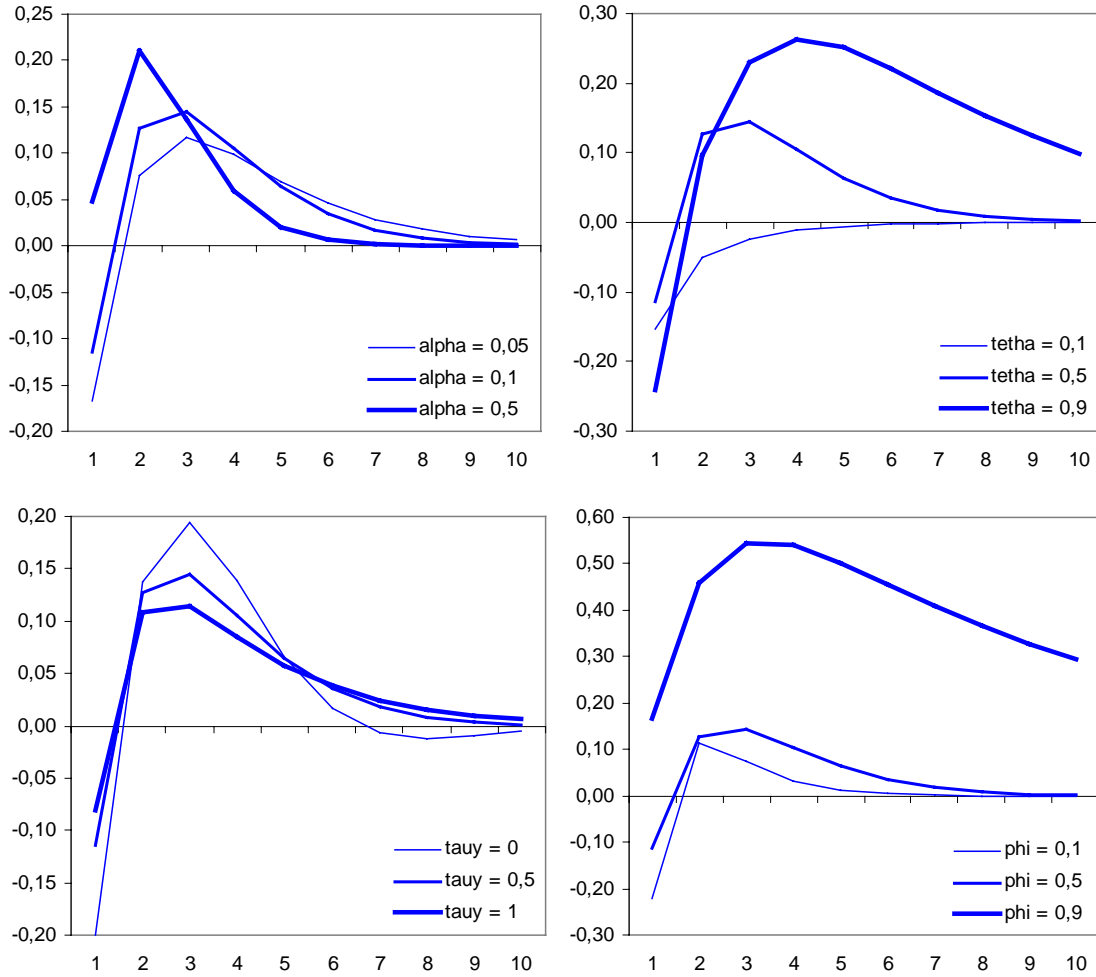


Figure 3: Nominal interest rate path with parameter values different from Figure 2

#### IV. Misreading Intertemporal Equilibrium Conditions: The Fiscal Theory of the Price Level<sup>7</sup>

At a first glance, FTPL seems to drop from the list of modern views on central bank policies as it apparently deals with fiscal policy. But there are two arguments that might justify its inclusion in the program of this paper. First, economists like Cochrane (2016) who deny that Taylor interest rate policies can determine inflation (*Section III.1*) resort to FTPL when they are asked how to explain the value of money. Second, it will be shown that the FTPL argu-

<sup>7</sup> This Section draws on a chapter in Spahn (2017).

ment implicitly depends on the assumption that some monetary authority pegs the face value of government bonds; therefore the approach has a close link to monetary policy.

Contrary to the Quantity Theory of Money, FTPL derives the level of prices from the state of public finance, i.e. from a condition of intertemporal sustainability of government debt.<sup>8</sup> Here, the real value of nominal current debt  $B_t$  should be equal to the discounted sum of all future real budget surpluses  $X_t$ .

$$\frac{B_t}{P_t} = \sum_{j=1}^{\infty} \frac{X_{t+j}}{(1+r_{t+j})^j} \quad [13]$$

The equation follows from a standard intertemporal optimisation approach where the transversality condition states that "at the end" of its economic life no agent is allowed to have a net-debtor status. If the time perspective is infinite however, the approach does not stipulate that debts ever are refunded (Blanchard/Fischer 1989: 127); in that case, the long-run sustainability condition is given by positive gap between the real interest rate and the economy's growth rate. FTPL nevertheless holds on to the overly strict condition [13]. Here, analogously to the one-equation approach of the Quantity Theory, the price level  $P_t$  is taken as the "final" endogenous variable, which suggests its determination through the other terms of the equation. A fiscal shock that increases the current budget deficit and the nominal stock of debt "requires" higher prices today if the whole future surplus is unchanged.

Is this more than an "accounting gimmickry without substantive interest" (Christiano/Fitzgerald 2000: 8)? Contrary to the *Unpleasant Monetarist Arithmetic* of Sargent and Wallace (1981), FTPL *at first* does not assume that the central bank increases money supply and prices, aiming to make real public debt sustainable; also there is no expected monetisation. How then do the variables in [13] match? The equation "can be satisfied as long as  $P$  jumps [!]. This is what FTPL advocates expect would happen. [...] The market [!] will generate a value of  $P$  to guarantee debt is not excessive. [...] The market-clearing mechanism moves the price level,  $P$ , to restore equality" (Christiano/Fitzgerald 2000: 7, 3).

Taking the price level as a jump variable (beyond an endowment model) contradicts empirical findings and analytical traditions. But the key problem is to give an explanation of price increases. They do not simply reflect fiscal excess demand; rather, the idea seems to be that agents scale up prices because the alternative – an unchecked growth of real public debt

---

<sup>8</sup> Equation [13] in the literature sometimes is also named the intertemporal budget constraint of government.



– is unconceivable and unwanted. But why should we see private agents repairing the government budget constraint by way of raising prices, thus depreciating their own money wealth, if they do not expect monetary impulses on the part of a central bank? It is hardly comprehensible to regard the price level as a risk-adjusting parameter of bond prices.<sup>9</sup> It is more obvious that market agents try to sell these bonds so that equation [13] is met by a direct depreciation of  $B_t$ . "The government's intertemporal budget constraint becomes a pricing kernel for the public debt, determining the effective value of the public debt and overriding its notional or contractual value" (Buiter 2002: 461, cf. Buiter 2017).

On account of this muddle, a tolerable view on FTPL is that it builds implicitly on the assumption of an institutional agent who precludes government bankruptcy (Bassetto 2008). The postulate of a constant nominal value of  $B_t$  in FTPL points to the role of the central bank. If nominal bond prices are fixed by monetary policy operations, the prediction of rising prices – in the case where fiscal authorities seem to live beyond their long-term budget constraints – is in line with standard macroeconomic wisdom. The monetarist transmission mechanism between money and prices will apply. Also, observing a mispricing of securities, asset holders will sell government bonds to the central bank and switch to other assets or even goods, which brings about excess demand. Hence, FTPL reduces to the simple recommendation of expansionary fiscal policy while offering a monetary backstop for government debt.

## V. Is There a Puzzle of Missing Inflation?

The preceding chapters argued that new "unconventional theories" hardly provide much hope in additional power of central banks. But is this hope necessary after all? Taking into account the deep structural distortions that have come with the US banking crisis and the ensuing euro crisis, it is good news to see inflation on the rise<sup>10</sup> again in major western economies (*Figure 4*). This finding is not quite in accordance with the often-articulated idea of flat supply curves in the world economy, which draw their shape from globalised trade, technical progress and weak wage-setting powers (which in turn depend on labour market deregulation and unemployment on a world scale). These factors surely shaped supply-side conditions in recent

---

<sup>9</sup> Also in the euro crisis, we did not witness rising price levels in countries that were hit by severe solvency shocks with respect to their government bonds.

<sup>10</sup> Figures are somewhat more subdued with regard to core inflation. However, the larger the economic area under consideration, the more dubious is the core-inflation concept. Supply-shock events that appear to be exogenous from a small-country point of view turn out to be driven by the overall macroeconomic activity in the world economy.

years, but they do not indicate a fundamental farewell to the principle of scarcity in macro-economics.

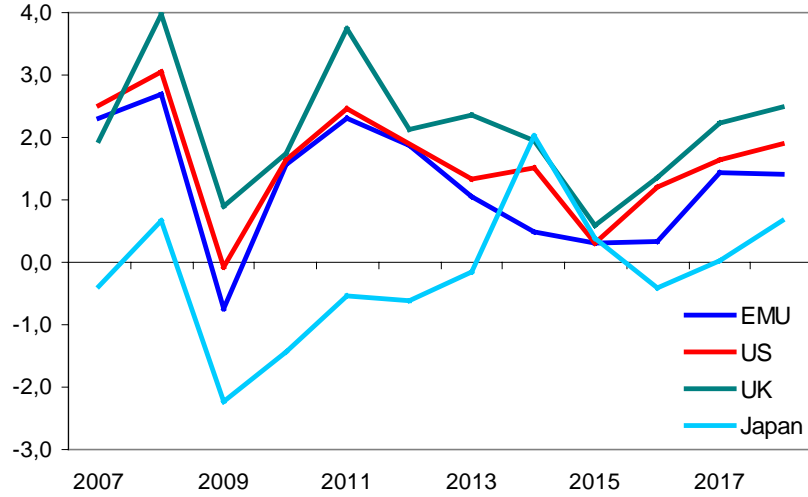


Figure 4: Growth rate of consumption price index  
(data source: OECD Economic Outlook, 102, November 2017, online)

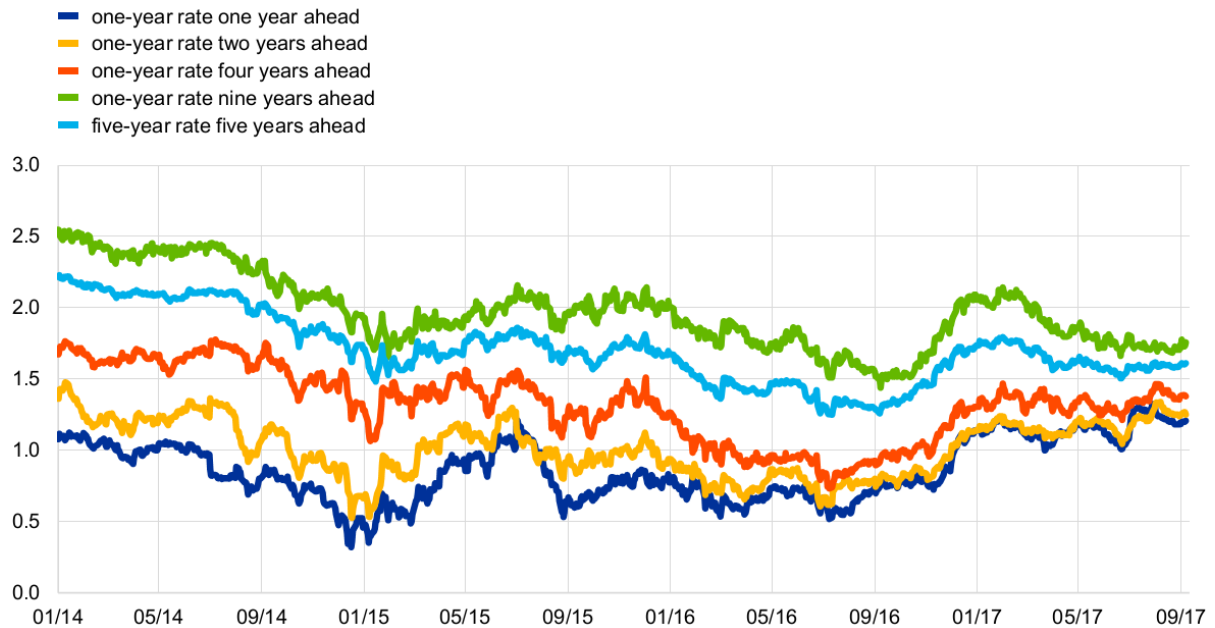
The intercept of the goods market supply function is no less important than its slope. It is mainly determined by inflation expectations, which among other factors depend on the central bank inflation target. Aiming at a rough assignment: the *ability* of monetary policy to control inflation determines the movement along the economy's supply function, whereas its intercept depends on the central bank's *credibility* and on market agents' *belief* in its power.<sup>11</sup> There is some evidence of a decline in trend inflation, and inflation persistence seems to have increased.

Analytically, NK models often over-simplify matters by assuming rational expectations whereby trend inflation is identified with the central bank target. The model modification presented in [11] instead allowed for a hybrid mechanism of expectation formation. This setup can be further elaborated by establishing a variable size of agent groups that practice rational and adaptive expectations (the parameter  $\theta$  was fixed in the model above). It is an obvious idea to let agents choose their preferred mechanism of expectation formation according to their relative performance, i.e. their success to predict key macroeconomic variables. In this case, a protracted deviation from inflation target undermines its credibility, agents will shift to

<sup>11</sup> "Shifts in the mean inflation rate expected in the long run indicate impaired trust in the central bank's commitment to achieve and maintain price stability. [...] By contrast, increased inflation persistence may imply an erosion of the effectiveness of the central bank's policy in stabilising inflation" (Ciccarelli/Osbat 2017: 11).

adaptive expectations, which in turn aggravates the monetary policy task of boosting output and inflation. This poses a risk for the economy to get stuck in a low-inflation constellation (Busetti et al. 2017).

Fortunately, in case of the eurozone, it seems that this risk has not materialised. Inflationary expectations have recovered from their trough in 2015 and are heading now steadily towards a 1.5 % level which is "below, but close to" the ECB target (*Figure 5*). The threat of de-anchoring has vanished (Ciccarelli/Osbat 2017), but there is also no sign of inflation expectations beyond that target rate which would be necessary to lend support to a successful FG strategy. Given this background, the persistent expansionary policy course of the ECB is hard to justify from a macroeconomic point of view. The Federal Reserve seems to be the only central bank, compared to the ECB, the Bank of England and the Bank of Japan, that has begun a normalisation of its policy stance (*Figure 6*).



*Figure 5: Market-based measures of inflation expectations (ECB Economic Bulletin, 6, 2017: 24)*

It is an open secret that the rationale of recent ECB policy is the support for public debt in southern eurozone countries. Keeping up and driving up asset prices also confirms that there is no puzzle of missing inflation in the eurozone. It is no contradiction to the Quantity Theory of Money that goods and asset prices rise in a variable proportion, differing from previous cycles. Creating allocative distortions and dynamic instability on asset markets is too high a price for the attempt to realise some minor increases of goods market inflation.

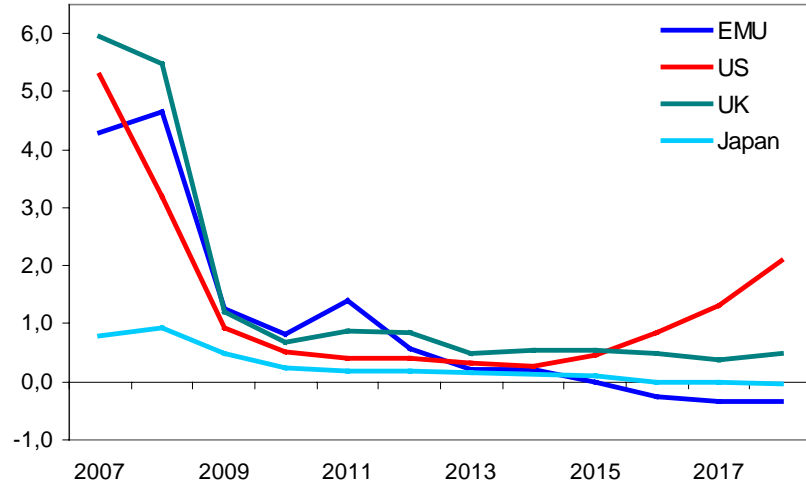


Figure 6: Three-month interbank interest rates  
(data source: OECD Economic Outlook, 102, November 2017, online)

## VI. Summary

Some "unconventional theories" have been proposed in recent years that aim to shed new light on the ability of monetary policy to control the value of money, beyond the traditional approach of managing interest rates and/or monetary conditions. Three of them that were briefly presented in this contribution were assessed to be less convincing, on analytical as well as on empirical grounds.

FG aims at a modification of standard modern interest rate policy, namely to announce a temporary overshooting of inflation in the near future, relative to the official target, and a sequence of policy interest rates that conform to this goal. In case of a binding zero lower bound, which limits actual central bank actions, FG comprises to keep rates "lower for longer", i.e. the central bank promises not to respond to recovering inflation for some time period. A major objection to FG is: if monetary policy obviously is unable to regain a macro-economic equilibrium with inflation at the target value by employing its usual means, market agents will hardly believe that the central bank is able to reach an even higher rate.

The NF view turns traditional interest rate policy on its head and calls for higher, not lower rates. If the nominal interest rate immediately is raised to the Fisher Equation level corresponding to the inflation target, market agents – understanding that the economy will soon settle down in a long-term equilibrium – will adjust their inflation expectations, and this will help to bring actual inflation on track. However, one may doubt that individuals think in terms of analytical equilibrium conditions; at most they might have learnt that interest rates are

moved to *counter* any path of inflation. Therefore a NF policy experiment most probably will be counterproductive.

Also the FTPL seems to be on the wrong track. It states that the price level always "jumps" to a value that solves the intertemporal equilibrium condition of public finance, namely that the real value of discounted future budget surpluses "backs" any current budget deficit. The key objection here is that any doubt with respect to the sustainability of government debt will impact on the market price of government bonds, and not (primarily) on the price level of goods.

At first sight, it is difficult to detect a common thread that links all three approaches. They build on assumptions that grow out of a mixture of model-consistent rational expectations – applied in a somewhat simple-minded way –, unfounded trust in policy announcements, and long-term equilibrium conditions, spelled forward and/or backward looking, that markets agents are supposed to believe in. Most probably, macroeconomic relationships between markets and policies work in a more old-fashioned way (Krugman 2018).

The "negative" results, which respect to the persuasiveness of these three approaches, are less relevant from a more practical point of view however. The data do not support the "puzzle of missing inflation". Interest rate policies and Quantitative Easing programs have led to rising prices. The overproportional rise of asset prices should pose a signal for normalisation of monetary policy, in order to avoid allocative distortions and financial instability.

### *References*

- Amano, R. et al. (2016): A Primer on Neo-Fisherian Economics. *Bank of Canada Staff Analytical Note*, 14.
- Ball, L. (2014): The Case for a Long-Run Inflation Target of Four Percent. *IMF Working Papers*, 14/92, Washington.
- Bassetto, M. (2008): Fiscal Theory of the Price Level. In: Durlauf, S. N. / Blume, L. E., eds.: *The New Palgrave Dictionary of Economics Online*. 2<sup>nd</sup> ed.
- Blanchard, O. J. / Fischer, S. (1989): *Lectures on Macroeconomics*. Cambridge / London.
- Buiter, W. H. (2002): The Fiscal Theory of the Price Level – A Critique. *Economic Journal*, 112, 459-480.
- Buiter, W. H. (2017): The Fallacy of the Fiscal Theory of the Price Level – Once More. *CEPR Discussion Papers*, 11941, London.
- Busetti, F. u.a. (2017): Trust, but Verify – De-anchoring of Inflation Expectations under Learning and Heterogeneity. *ECB Working Papers*, 1994, Frankfurt.
- Christiano, L. J. / Fitzgerald, T. J. (2000): Understanding the Fiscal Theory of the Price Level. Federal

- Reserve Bank of Cleveland, *Economic Review*, 36, 2, 1-37.
- Ciccarelli, M. / Osbat, C., eds. (2017): Low Inflation in the Euro Area – Causes and Consequences. *ECB Occasional Papers*, 181, Frankfurt.
- Cochrane, J. H. (2011): Determinacy and Identification With Taylor Rules. *Journal of Political Economy*, 119, 565-615.
- Cochrane, J. H. (2016): Do Higher Interest Rates Raise or Lower Inflation? University of Chicago.
- European Central Bank (2014): The ECB's Forward Guidance. *Monthly Bulletin*, April, 65-73.
- Gabaix, X. (2016): A Behavioral New Keynesian Model. *CEPR Discussion Papers*, 1729, London.
- García-Schmidt, M. / Woodford, M. (2015): Are Low Interest Rates Deflationary? A Paradox of Perfect-Foresight Analysis. *NBER Working Papers*, 21614, Cambridge.
- Garín, J. et al. (2016): Raise Rates to Raise Inflation? Neo-Fisherianism in the New Keynesian Model. University of Georgia (forthcoming in *Journal of Money, Credit, and Banking*)
- Gerke, R. / Hauzenberger, K. (2017): The Fisher Paradox – A Primer. Deutsche Bundesbank, *Discussion Papers*, 20, Frankfurt.
- Gertler, M. (2017): Rethinking the Power of Forward Guidance – Lessons from Japan. *NBER Working Papers*, 23707, Cambridge.
- Hagedorn, M. (2011): Optimal Disinflation in New Keynesian Models. *Journal of Monetary Economics*, 58, 248-261.
- Illing, G. (2015): Unkonventionelle Geldpolitik – kein Paradigmenwechsel. *Perspektiven der Wirtschaftspolitik*, 16, 127-150.
- Krugman, P. R. (2018): Good Enough for Government Work? Macroeconomics Since the Crisis. *Oxford Review of Economic Policy*, 34, 1-2, 156-168.
- McCallum, B. T. (2009): Inflation Determination with Taylor Rules – Is New-Keynesian Analysis Critically Flawed? *Journal of Monetary Economics*, 56, 1101-1108.
- Sachverständigenrat (2017): *Für eine zukunftsorientierte Wirtschaftspolitik*. Jahresgutachten 2017/18. Wiesbaden.
- Sargent, T. J. / Wallace, N. (1981): Some Unpleasant Monetarist Arithmetic. Federal Reserve Bank of Minneapolis, *Quarterly Review*, 1-17.
- Spahn, P. (2017): Zentralbankdesign in der Währungsunion – Monetäre Absicherung der Staatsschulden? *List Forum für Wirtschafts- und Finanzpolitik*, 43, 295-319.
- Uribe, M. (2017): The Neo-Fisher Effect in the United States and Japan. *NBER Working Papers*, 23977, Cambridge.
- Woodford, M. (2003): *Interest and Prices – Foundations of a Theory of Monetary Policy*. Princeton.

## Hohenheim Discussion Papers in Business, Economics and Social Sciences

The Faculty of Business, Economics and Social Sciences continues since 2015 the established “FZID Discussion Paper Series” of the “Centre for Research on Innovation and Services (FZID)” under the name “Hohenheim Discussion Papers in Business, Economics and Social Sciences”.

### Institutes

510	Institute of Financial Management
520	Institute of Economics
530	Institute of Health Care & Public Management
540	Institute of Communication Science
550	Institute of Law and Social Sciences
560	Institute of Economic and Business Education
570	Institute of Marketing & Management
580	Institute of Interorganizational Management & Performance

### Research Areas (since 2017)

INEPA	“Inequality and Economic Policy Analysis”
TKID	“Transformation der Kommunikation – Integration und Desintegration”
NegoTrans	“Negotiation Research – Transformation, Technology, Media and Costs”
INEF	“Innovation, Entrepreneurship and Finance”

Download Hohenheim Discussion Papers in Business, Economics and Social Sciences  
from our homepage: <https://wiso.uni-hohenheim.de/papers>

No.	Author	Title	Inst
01-2015	Thomas Beissinger, Philipp Baudy	THE IMPACT OF TEMPORARY AGENCY WORK ON TRADE UNION WAGE SETTING: A Theoretical Analysis	520
02-2015	Fabian Wahl	PARTICIPATIVE POLITICAL INSTITUTIONS AND CITY DEVELOPMENT 800-1800	520
03-2015	Tommaso Proietti, Martyna Marczak, Gianluigi Mazzi	EUROMIND-D: A DENSITY ESTIMATE OF MONTHLY GROSS DOMESTIC PRODUCT FOR THE EURO AREA	520
04-2015	Thomas Beissinger, Nathalie Chusseau, Joël Hellier	OFFSHORING AND LABOUR MARKET REFORMS: MODELLING THE GERMAN EXPERIENCE	520
05-2015	Matthias Mueller, Kristina Bogner, Tobias Buchmann, Muhammed Kudic	SIMULATING KNOWLEDGE DIFFUSION IN FOUR STRUCTURALLY DISTINCT NETWORKS – AN AGENT-BASED SIMULATION MODEL	520
06-2015	Martyna Marczak, Thomas Beissinger	BIDIRECTIONAL RELATIONSHIP BETWEEN INVESTOR SENTIMENT AND EXCESS RETURNS: NEW EVIDENCE FROM THE WAVELET PERSPECTIVE	520
07-2015	Peng Nie, Galit Nimrod, Alfonso Sousa-Poza	INTERNET USE AND SUBJECTIVE WELL-BEING IN CHINA	530

No.	Author	Title	Inst
08-2015	Fabian Wahl	THE LONG SHADOW OF HISTORY ROMAN LEGACY AND ECONOMIC DEVELOPMENT – EVIDENCE FROM THE GERMAN LIMES	520
09-2015	Peng Nie, Alfonso Sousa-Poza	COMMUTE TIME AND SUBJECTIVE WELL-BEING IN URBAN CHINA	530
10-2015	Kristina Bogner	THE EFFECT OF PROJECT FUNDING ON INNOVATIVE PERFORMANCE AN AGENT-BASED SIMULATION MODEL	520
11-2015	Bogang Jun, Tai-Yoo Kim	A NEO-SCHUMPETERIAN PERSPECTIVE ON THE ANALYTICAL MACROECONOMIC FRAMEWORK: THE EXPANDED REPRODUCTION SYSTEM	520
12-2015	Volker Grossmann Aderonke Osikominu Marius Osterfeld	ARE SOCIOCULTURAL FACTORS IMPORTANT FOR STUDYING A SCIENCE UNIVERSITY MAJOR?	520
13-2015	Martyna Marczak Tommaso Proietti Stefano Grassi	A DATA–CLEANING AUGMENTED KALMAN FILTER FOR ROBUST ESTIMATION OF STATE SPACE MODELS	520
14-2015	Carolina Castagnetti Luisa Rosti Marina Töpfer	THE REVERSAL OF THE GENDER PAY GAP AMONG PUBLIC-CONTEST SELECTED YOUNG EMPLOYEES	520
15-2015	Alexander Opitz	DEMOCRATIC PROSPECTS IN IMPERIAL RUSSIA: THE REVOLUTION OF 1905 AND THE POLITICAL STOCK MARKET	520
01-2016	Michael Ahlheim, Jan Neidhardt	NON-TRADING BEHAVIOUR IN CHOICE EXPERIMENTS	520
02-2016	Bogang Jun, Alexander Gerybadze, Tai-Yoo Kim	THE LEGACY OF FRIEDRICH LIST: THE EXPANSIVE REPRODUCTION SYSTEM AND THE KOREAN HISTORY OF INDUSTRIALIZATION	520
03-2016	Peng Nie, Alfonso Sousa-Poza	FOOD INSECURITY AMONG OLDER EUROPEANS: EVIDENCE FROM THE SURVEY OF HEALTH, AGEING, AND RETIREMENT IN EUROPE	530
04-2016	Peter Spahn	POPULATION GROWTH, SAVING, INTEREST RATES AND STAGNATION. DISCUSSING THE EGGERTSSON- MEHROTRA-MODEL	520
05-2016	Vincent Dekker, Kristina Strohmaier, Nicole Bosch	A DATA-DRIVEN PROCEDURE TO DETERMINE THE BUNCHING WINDOW – AN APPLICATION TO THE NETHERLANDS	520
06-2016	Philipp Baudy, Dario Cords	DEREGULATION OF TEMPORARY AGENCY EMPLOYMENT IN A UNIONIZED ECONOMY: DOES THIS REALLY LEAD TO A SUBSTITUTION OF REGULAR EMPLOYMENT?	520



No.	Author	Title	Inst
07-2016	Robin Jessen, Davud Rostam-Afschar, Sebastian Schmitz	HOW IMPORTANT IS PRECAUTIONARY LABOR SUPPLY?	520
08-2016	Peng Nie, Alfonso Sousa-Poza, Jianhong Xue	FUEL FOR LIFE: DOMESTIC COOKING FUELS AND WOMEN'S HEALTH IN RURAL CHINA	530
09-2016	Bogang Jun, Seung Kyu-Yi, Tobias Buchmann, Matthias Müller	THE CO-EVOLUTION OF INNOVATION NETWORKS: COLLABORATION BETWEEN WEST AND EAST GERMANY FROM 1972 TO 2014	520
10-2016	Vladan Ivanovic, Vadim Kufenko, Boris Begovic Nenad Stanisic, Vincent Geloso	CONTINUITY UNDER A DIFFERENT NAME. THE OUTCOME OF PRIVATISATION IN SERBIA	520
11-2016	David E. Bloom Michael Kuhn Klaus Prettnner	THE CONTRIBUTION OF FEMALE HEALTH TO ECONOMIC DEVELOPMENT	520
12-2016	Franz X. Hof Klaus Prettnner	THE QUEST FOR STATUS AND R&D-BASED GROWTH	520
13-2016	Jung-In Yeon Andreas Pyka Tai-Yoo Kim	STRUCTURAL SHIFT AND INCREASING VARIETY IN KOREA, 1960–2010: EMPIRICAL EVIDENCE OF THE ECONOMIC DEVELOPMENT MODEL BY THE CREATION OF NEW SECTORS	520
14-2016	Benjamin Fuchs	THE EFFECT OF TEENAGE EMPLOYMENT ON CHARACTER SKILLS, EXPECTATIONS AND OCCUPATIONAL CHOICE STRATEGIES	520
15-2016	Seung-Kyu Yi Bogang Jun	HAS THE GERMAN REUNIFICATION STRENGTHENED GERMANY'S NATIONAL INNOVATION SYSTEM? TRIPLE HELIX DYNAMICS OF GERMANY'S INNOVATION SYSTEM	520
16-2016	Gregor Pfeifer Fabian Wahl Martyna Marczak	ILLUMINATING THE WORLD CUP EFFECT: NIGHT LIGHTS EVIDENCE FROM SOUTH AFRICA	520
17-2016	Malte Klein Andreas Sauer	CELEBRATING 30 YEARS OF INNOVATION SYSTEM RESEARCH: WHAT YOU NEED TO KNOW ABOUT INNOVATION SYSTEMS	570
18-2016	Klaus Prettnner	THE IMPLICATIONS OF AUTOMATION FOR ECONOMIC GROWTH AND THE LABOR SHARE	520
19-2016	Klaus Prettnner Andreas Schaefer	HIGHER EDUCATION AND THE FALL AND RISE OF INEQUALITY	520
20-2016	Vadim Kufenko Klaus Prettnner	YOU CAN'T ALWAYS GET WHAT YOU WANT? ESTIMATOR CHOICE AND THE SPEED OF CONVERGENCE	520

No.	Author	Title	Inst
01-2017	Annarita Baldanzi Alberto Bucci Klaus Prettner	CHILDRENS HEALTH, HUMAN CAPITAL ACCUMULATION, AND R&D-BASED ECONOMIC GROWTH	INEPA
02-2017	Julius Tennert Marie Lambert Hans-Peter Burghof	MORAL HAZARD IN VC-FINANCE: MORE EXPENSIVE THAN YOU THOUGHT	INEF
03-2017	Michael Ahlheim Oliver Frör Nguyen Minh Duc Antonia Rehl Ute Siepmann Pham Van Dinh	LABOUR AS A UTILITY MEASURE RECONSIDERED	520
04-2017	Bohdan Kukharskyy Sebastian Seiffert	GUN VIOLENCE IN THE U.S.: CORRELATES AND CAUSES	520
05-2017	Ana Abeliasky Klaus Prettner	AUTOMATION AND DEMOGRAPHIC CHANGE	520
06-2017	Vincent Geloso Vadim Kufenko	INEQUALITY AND GUARD LABOR, OR PROHIBITION AND GUARD LABOR?	INEPA
07-2017	Emanuel Gasteiger Klaus Prettner	ON THE POSSIBILITY OF AUTOMATION-INDUCED STAGNATION	520
08-2017	Klaus Prettner Holger Strulik	THE LOST RACE AGAINST THE MACHINE: AUTOMATION, EDUCATION, AND INEQUALITY IN AN R&D-BASED GROWTH MODEL	INEPA
09-2017	David E. Bloom Simiao Chen Michael Kuhn Mark E. McGovern Les Oxley Klaus Prettner	THE ECONOMIC BURDEN OF CHRONIC DISEASES: ESTIMATES AND PROJECTIONS FOR CHINA, JAPAN, AND SOUTH KOREA	520
10-2017	Sebastian Till Braun Nadja Dwenger	THE LOCAL ENVIRONMENT SHAPES REFUGEE INTEGRATION: EVIDENCE FROM POST-WAR GERMANY	INEPA
11-2017	Vadim Kufenko Klaus Prettner Vincent Geloso	DIVERGENCE, CONVERGENCE, AND THE HISTORY-AUGMENTED SOLOW MODEL	INEPA
12-2017	Frank M. Fossen Ray Rees Davud Rostam-Afschar Viktor Steiner	HOW DO ENTREPRENEURIAL PORTFOLIOS RESPOND TO INCOME TAXATION?	520
13-2017	Steffen Otterbach Michael Rogan	SPATIAL DIFFERENCES IN STUNTING AND HOUSEHOLD AGRICULTURAL PRODUCTION IN SOUTH AFRICA: (RE-) EXAMINING THE LINKS USING NATIONAL PANEL SURVEY DATA	INEPA
14-2017	Carolina Castagnetti Luisa Rosti Marina Töpfer	THE CONVERGENCE OF THE GENDER PAY GAP – AN ALTERNATIVE ESTIMATION APPROACH	INEPA

No.	Author	Title	Inst
15-2017	Andreas Hecht	ON THE DETERMINANTS OF SPECULATION – A CASE FOR EXTENDED DISCLOSURES IN CORPORATE RISK MANAGEMENT	510
16-2017	Mareike Schoop D. Marc Kilgour (Editors)	PROCEEDINGS OF THE 17 <sup>TH</sup> INTERNATIONAL CONFERENCE ON GROUP DECISION AND NEGOTIATION	NegoTrans
17-2017	Mareike Schoop D. Marc Kilgour (Editors)	DOCTORAL CONSORTIUM OF THE 17 <sup>TH</sup> INTERNATIONAL CONFERENCE ON GROUP DECISION AND NEGOTIATION	NegoTrans
18-2017	Sibylle Lehmann-Hasemeyer Fabian Wahl	SAVING BANKS AND THE INDUSTRIAL REVOLUTION IN PRUSSIA SUPPORTING REGIONAL DEVELOPMENT WITH PUBLIC FINANCIAL INSTITUTIONS	520
19-2017	Stephanie Glaser	A REVIEW OF SPATIAL ECONOMETRIC MODELS FOR COUNT DATA	520
20-2017	Dario Cords	ENDOGENOUS TECHNOLOGY, MATCHING, AND LABOUR UNIONS: DOES LOW-SKILLED IMMIGRATION AFFECT THE TECHNOLOGICAL ALIGNMENT OF THE HOST COUNTRY?	INEPA
21-2017	Micha Kaiser Jan M. Bauer	PRESCHOOL CHILD CARE AND CHILD WELL-BEING IN GERMANY: DOES THE MIGRANT EXPERIENCE DIFFER?	INEPA
22-2017	Thilo R. Huning Fabian Wahl	LORD OF THE LEMONS: ORIGIN AND DYNAMICS OF STATE CAPACITY	520
23-2017	Matthias Busse Ceren Erdogan Henning Mühlen	STRUCTURAL TRANSFORMATION AND ITS RELEVANCE FOR ECONOMIC GROWTH IN SUB-SHARAN AFRICA	INEPA
24-2017	Sibylle Lehmann-Hasemeyer Alexander Opitz	THE VALUE OF POLITICAL CONNECTIONS IN THE FIRST GERMAN DEMOCRACY – EVIDENCE FROM THE BERLIN STOCK EXCHANGE	520
25-2017	Samuel Mburu Micha Kaiser Alfonso Sousa-Poza	LIVESTOCK ASSET DYNAMICS AMONG PASTORALISTS IN NORTHERN KENYA	INEPA
26-2017	Marina Töpfer	DETAILED RIF DECOMPOSITION WITH SELECTION – THE GENDER PAY GAP IN ITALY	INEPA
27-2017	Robin Jessen Maria Metzinger Davud Rostam-Afschar	OPTIMAL TAXATION UNDER DIFFERENT CONCEPTS OF JUSTNESS	INEPA
28-2017	Alexander Kressner Katja Schimmelpfeng	CLUSTERING SURGICAL PROCEDURES FOR MASTER SURGICAL SCHEDULING	580
29-2017	Clemens Lankisch Klaus Prettnner Alexia Prskawetz	ROBOTS AND THE SKILL PREMIUM: AN AUTOMATION-BASED EXPLANATION OF WAGE INEQUALITY	INEPA

No.	Author	Title	Inst
30-2017	Ann-Sophie Adelhelm Melanie Bathelt Mirjam Bathelt Bettina Bürkin Sascha Klein Sabrina Straub Lea Wagner Fabienne Walz	ARBEITSWELT: DIGITAL – BELASTUNG: REAL? DER ERLEBTE WANDEL DER ARBEITSWELT INNERHALB DER IT-BRANCHE AUS SICHT DER ARBEITNEHMER	550
31-2017	Annarita Baldanzi Klaus Prettnner Paul Tscheuschner	LONGEVITY-INDUCED VERICAL INNOVATION AND THE TRADEOFF BETWEEN LIFE AND GROWTH	520
32-2017	Vincent Dekker Kristina Strohmaier	THE EFFECT OF TRANSFER PRICING REGULATIONS ON INTRA-INDUSTRY TRADE	520
01-2018	Michael D. Howard Johannes Kolb	FOUNDER CEOS AND NEW VENTURE MEDIA COVERAGE	INEF
02-2018	Peter Spahn	UNCONVENTIONAL VIEWS ON INFLATION CONTRAOL: FORWARD GUIDANCE, THE NEO- FISHERIAN APPROACH, AND THE FISCAL THEORY OF THE PRICE LEVEL	520

## FZID Discussion Papers

(published 2009-2014)

### Competence Centers

IK	Innovation and Knowledge
ICT	Information Systems and Communication Systems
CRFM	Corporate Finance and Risk Management
HCM	Health Care Management
CM	Communication Management
MM	Marketing Management
ECO	Economics

Download FZID Discussion Papers from our homepage: [https://wiso.uni-hohenheim.de/archiv\\_fzid\\_papers](https://wiso.uni-hohenheim.de/archiv_fzid_papers)

Nr.	Autor	Titel	CC
01-2009	Julian P. Christ	NEW ECONOMIC GEOGRAPHY RELOADED: Localized Knowledge Spillovers and the Geography of Innovation	IK
02-2009	André P. Slowak	MARKET FIELD STRUCTURE & DYNAMICS IN INDUSTRIAL AUTOMATION	IK
03-2009	Pier Paolo Saviotti, Andreas Pyka	GENERALIZED BARRIERS TO ENTRY AND ECONOMIC DEVELOPMENT	IK
04-2009	Uwe Focht, Andreas Richter and Jörg Schiller	INTERMEDIATION AND MATCHING IN INSURANCE MARKETS	HCM
05-2009	Julian P. Christ, André P. Slowak	WHY BLU-RAY VS. HD-DVD IS NOT VHS VS. BETAMAX: THE CO-EVOLUTION OF STANDARD-SETTING CONSORTIA	IK
06-2009	Gabriel Felbermayr, Mario Larch and Wolfgang Lechthaler	UNEMPLOYMENT IN AN INTERDEPENDENT WORLD	ECO
07-2009	Steffen Otterbach	MISMATCHES BETWEEN ACTUAL AND PREFERRED WORK TIME: Empirical Evidence of Hours Constraints in 21 Countries	HCM
08-2009	Sven Wydra	PRODUCTION AND EMPLOYMENT IMPACTS OF NEW TECHNOLOGIES – ANALYSIS FOR BIOTECHNOLOGY	IK
09-2009	Ralf Richter, Jochen Streb	CATCHING-UP AND FALLING BEHIND KNOWLEDGE SPILLOVER FROM AMERICAN TO GERMAN MACHINE TOOL MAKERS	IK

<b>Nr.</b>	<b>Autor</b>	<b>Titel</b>	<b>CC</b>
10-2010	Rahel Aichele, Gabriel Felbermayr	KYOTO AND THE CARBON CONTENT OF TRADE	ECO
11-2010	David E. Bloom, Alfonso Sousa-Poza	ECONOMIC CONSEQUENCES OF LOW FERTILITY IN EUROPE	HCM
12-2010	Michael Ahlheim, Oliver Frör	DRINKING AND PROTECTING – A MARKET APPROACH TO THE PRESERVATION OF CORK OAK LANDSCAPES	ECO
13-2010	Michael Ahlheim, Oliver Frör, Antonia Heinke, Nguyen Minh Duc, and Pham Van Dinh	LABOUR AS A UTILITY MEASURE IN CONTINGENT VALUATION STUDIES – HOW GOOD IS IT REALLY?	ECO
14-2010	Julian P. Christ	THE GEOGRAPHY AND CO-LOCATION OF EUROPEAN TECHNOLOGY-SPECIFIC CO-INVENTORSHIP NETWORKS	IK
15-2010	Harald Degner	WINDOWS OF TECHNOLOGICAL OPPORTUNITY DO TECHNOLOGICAL BOOMS INFLUENCE THE RELATIONSHIP BETWEEN FIRM SIZE AND INNOVATIVENESS?	IK
16-2010	Tobias A. Jopp	THE WELFARE STATE EVOLVES: GERMAN KNAPPSCHAFTEN, 1854-1923	HCM
17-2010	Stefan Kirn (Ed.)	PROCESS OF CHANGE IN ORGANISATIONS THROUGH eHEALTH	ICT
18-2010	Jörg Schiller	ÖKONOMISCHE ASPEKTE DER ENTLOHNUNG UND REGULIERUNG UNABHÄNGIGER VERSICHERUNGSVERMITTLER	HCM
19-2010	Frauke Lammers, Jörg Schiller	CONTRACT DESIGN AND INSURANCE FRAUD: AN EXPERIMENTAL INVESTIGATION	HCM
20-2010	Martyna Marczak, Thomas Beissinger	REAL WAGES AND THE BUSINESS CYCLE IN GERMANY	ECO
21-2010	Harald Degner, Jochen Streb	FOREIGN PATENTING IN GERMANY, 1877-1932	IK
22-2010	Heiko Stüber, Thomas Beissinger	DOES DOWNWARD NOMINAL WAGE RIGIDITY DAMPEN WAGE INCREASES?	ECO
23-2010	Mark Spoerer, Jochen Streb	GUNS AND BUTTER – BUT NO MARGARINE: THE IMPACT OF NAZI ECONOMIC POLICIES ON GERMAN FOOD CONSUMPTION, 1933-38	ECO

Nr.	Autor	Titel	CC
24-2011	Dhammika Dharmapala, Nadine Riedel	EARNINGS SHOCKS AND TAX-MOTIVATED INCOME-SHIFTING: EVIDENCE FROM EUROPEAN MULTINATIONALS	ECO
25-2011	Michael Schuele, Stefan Kirn	QUALITATIVES, RÄUMLICHES SCHLIEßEN ZUR KOLLISIONSERKENNUNG UND KOLLISIONSVERMEIDUNG AUTONOMER BDI-AGENTEN	ICT
26-2011	Marcus Müller, Guillaume Stern, Ansger Jacob and Stefan Kirn	VERHALTENSMODELLE FÜR SOFTWAREAGENTEN IM PUBLIC GOODS GAME	ICT
27-2011	Monnet Benoit, Patrick Gbakoua and Alfonso Sousa-Poza	ENGEL CURVES, SPATIAL VARIATION IN PRICES AND DEMAND FOR COMMODITIES IN CÔTE D'IVOIRE	ECO
28-2011	Nadine Riedel, Hannah Schildberg- Hörisch	ASYMMETRIC OBLIGATIONS	ECO
29-2011	Nicole Waidlein	CAUSES OF PERSISTENT PRODUCTIVITY DIFFERENCES IN THE WEST GERMAN STATES IN THE PERIOD FROM 1950 TO 1990	IK
30-2011	Dominik Hartmann, Atilio Arata	MEASURING SOCIAL CAPITAL AND INNOVATION IN POOR AGRICULTURAL COMMUNITIES. THE CASE OF CHÁPARRA - PERU	IK
31-2011	Peter Spahn	DIE WÄHRUNGSKRISEUNION DIE EURO-VERSCHULDUNG DER NATIONALSTAATEN ALS SCHWACHSTELLE DER EWU	ECO
32-2011	Fabian Wahl	DIE ENTWICKLUNG DES LEBENSSTANDARDS IM DRITTEN REICH – EINE GLÜCKSÖKONOMISCHE PERSPEKTIVE	ECO
33-2011	Giorgio Triulzi, Ramon Scholz and Andreas Pyka	R&D AND KNOWLEDGE DYNAMICS IN UNIVERSITY-INDUSTRY RELATIONSHIPS IN BIOTECH AND PHARMACEUTICALS: AN AGENT-BASED MODEL	IK
34-2011	Claus D. Müller- Hengstenberg, Stefan Kirn	ANWENDUNG DES ÖFFENTLICHEN VERGABERECHTS AUF MODERNE IT SOFTWAREENTWICKLUNGSVERFAHREN	ICT
35-2011	Andreas Pyka	AVOIDING EVOLUTIONARY INEFFICIENCIES IN INNOVATION NETWORKS	IK
36-2011	David Bell, Steffen Otterbach and Alfonso Sousa-Poza	WORK HOURS CONSTRAINTS AND HEALTH	HCM
37-2011	Lukas Scheffknecht, Felix Geiger	A BEHAVIORAL MACROECONOMIC MODEL WITH ENDOGENOUS BOOM-BUST CYCLES AND LEVERAGE DYNAMICS	ECO
38-2011	Yin Krogmann, Ulrich Schwalbe	INTER-FIRM R&D NETWORKS IN THE GLOBAL PHARMACEUTICAL BIOTECHNOLOGY INDUSTRY DURING 1985–1998: A CONCEPTUAL AND EMPIRICAL ANALYSIS	IK

<b>Nr.</b>	<b>Autor</b>	<b>Titel</b>	<b>CC</b>
39-2011	Michael Ahlheim, Tobias Börger and Oliver Frör	RESPONDENT INCENTIVES IN CONTINGENT VALUATION: THE ROLE OF RECIPROCITY	ECO
40-2011	Tobias Börger	A DIRECT TEST OF SOCIALLY DESIRABLE RESPONDING IN CONTINGENT VALUATION INTERVIEWS	ECO
41-2011	Ralf Rukwid, Julian P. Christ	QUANTITATIVE CLUSTERIDENTIFIKATION AUF EBENE DER DEUTSCHEN STADT- UND LANDKREISE (1999-2008)	IK



Nr.	Autor	Titel	CC
42-2012	Benjamin Schön, Andreas Pyka	A TAXONOMY OF INNOVATION NETWORKS	IK
43-2012	Dirk Foremny, Nadine Riedel	BUSINESS TAXES AND THE ELECTORAL CYCLE	ECO
44-2012	Gisela Di Meglio, Andreas Pyka and Luis Rubalcaba	VARIETIES OF SERVICE ECONOMIES IN EUROPE	IK
45-2012	Ralf Rukwid, Julian P. Christ	INNOVATIONSPOTENTIALE IN BADEN-WÜRTTEMBERG: PRODUKTIONSCLUSTER IM BEREICH „METALL, ELEKTRO, IKT“ UND REGIONALE VERFÜGBARKEIT AKADEMISCHER FACHKRÄFTE IN DEN MINT-FÄCHERN	IK
46-2012	Julian P. Christ, Ralf Rukwid	INNOVATIONSPOTENTIALE IN BADEN-WÜRTTEMBERG: BRANCHENSPEZIFISCHE FORSCHUNGS- UND ENTWICKLUNGSAKTIVITÄT, REGIONALES PATENTAUFKOMMEN UND BESCHÄFTIGUNGSSTRUKTUR	IK
47-2012	Oliver Sauter	ASSESSING UNCERTAINTY IN EUROPE AND THE US - IS THERE A COMMON FACTOR?	ECO
48-2012	Dominik Hartmann	SEN MEETS SCHUMPETER. INTRODUCING STRUCTURAL AND DYNAMIC ELEMENTS INTO THE HUMAN CAPABILITY APPROACH	IK
49-2012	Harold Paredes- Frigolett, Andreas Pyka	DISTAL EMBEDDING AS A TECHNOLOGY INNOVATION NETWORK FORMATION STRATEGY	IK
50-2012	Martyna Marczak, Víctor Gómez	CYCLICALITY OF REAL WAGES IN THE USA AND GERMANY: NEW INSIGHTS FROM WAVELET ANALYSIS	ECO
51-2012	André P. Slowak	DIE DURCHSETZUNG VON SCHNITTSTELLEN IN DER STANDARDSETZUNG: FALLBEISPIEL LADESYSTEM ELEKTROMOBILITÄT	IK
52-2012	Fabian Wahl	WHY IT MATTERS WHAT PEOPLE THINK - BELIEFS, LEGAL ORIGINS AND THE DEEP ROOTS OF TRUST	ECO
53-2012	Dominik Hartmann, Micha Kaiser	STATISTISCHER ÜBERBLICK DER TÜRKISCHEN MIGRATION IN BADEN-WÜRTTEMBERG UND DEUTSCHLAND	IK
54-2012	Dominik Hartmann, Andreas Pyka, Seda Aydin, Lena Klauß, Fabian Stahl, Ali Santircioglu, Silvia Oberegelsbacher, Sheida Rashidi, Gaye Onan and Suna Erginkoç	IDENTIFIZIERUNG UND ANALYSE DEUTSCH-TÜRKISCHER INNOVATIONSNETZWERKE. ERSTE ERGEBNISSE DES TGIN- PROJEKTES	IK
55-2012	Michael Ahlheim, Tobias Börger and Oliver Frör	THE ECOLOGICAL PRICE OF GETTING RICH IN A GREEN DESERT: A CONTINGENT VALUATION STUDY IN RURAL SOUTHWEST CHINA	ECO

<b>Nr.</b>	<b>Autor</b>	<b>Titel</b>	<b>CC</b>
56-2012	Matthias Striffler Thomas Beissinger	FAIRNESS CONSIDERATIONS IN LABOR UNION WAGE SETTING – A THEORETICAL ANALYSIS	ECO
57-2012	Peter Spahn	INTEGRATION DURCH WÄHRUNGSUNION? DER FALL DER EURO-ZONE	ECO
58-2012	Sibylle H. Lehmann	TAKING FIRMS TO THE STOCK MARKET: IPOS AND THE IMPORTANCE OF LARGE BANKS IN IMPERIAL GERMANY 1896-1913	ECO
59-2012	Sibylle H. Lehmann, Philipp Hauber and Alexander Opitz	POLITICAL RIGHTS, TAXATION, AND FIRM VALUATION – EVIDENCE FROM SAXONY AROUND 1900	ECO
60-2012	Martyna Marczak, Víctor Gómez	SPECTRAN, A SET OF MATLAB PROGRAMS FOR SPECTRAL ANALYSIS	ECO
61-2012	Theresa Lohse, Nadine Riedel	THE IMPACT OF TRANSFER PRICING REGULATIONS ON PROFIT SHIFTING WITHIN EUROPEAN MULTINATIONALS	ECO

<b>Nr.</b>	<b>Autor</b>	<b>Titel</b>	<b>CC</b>
62-2013	Heiko Stüber	REAL WAGE CYCLICALITY OF NEWLY HIRED WORKERS	ECO
63-2013	David E. Bloom, Alfonso Sousa-Poza	AGEING AND PRODUCTIVITY	HCM
64-2013	Martyna Marczak, V́ctor Ǵmez	MONTHLY US BUSINESS CYCLE INDICATORS: A NEW MULTIVARIATE APPROACH BASED ON A BAND-PASS FILTER	ECO
65-2013	Dominik Hartmann, Andreas Pyka	INNOVATION, ECONOMIC DIVERSIFICATION AND HUMAN DEVELOPMENT	IK
66-2013	Christof Ernst, Katharina Richter and Nadine Riedel	CORPORATE TAXATION AND THE QUALITY OF RESEARCH AND DEVELOPMENT	ECO
67-2013	Michael Ahlheim, Oliver Frör, Jiang Tong, Luo Jing and Sonna Pelz	NONUSE VALUES OF CLIMATE POLICY - AN EMPIRICAL STUDY IN XINJIANG AND BEIJING	ECO
68-2013	Michael Ahlheim, Friedrich Schneider	CONSIDERING HOUSEHOLD SIZE IN CONTINGENT VALUATION STUDIES	ECO
69-2013	Fabio Bertoni, Tereza Tykvová	WHICH FORM OF VENTURE CAPITAL IS MOST SUPPORTIVE OF INNOVATION? EVIDENCE FROM EUROPEAN BIOTECHNOLOGY COMPANIES	CFRM
70-2013	Tobias Buchmann, Andreas Pyka	THE EVOLUTION OF INNOVATION NETWORKS: THE CASE OF A GERMAN AUTOMOTIVE NETWORK	IK
71-2013	B. Vermeulen, A. Pyka, J. A. La Poutré and A. G. de Kok	CAPABILITY-BASED GOVERNANCE PATTERNS OVER THE PRODUCT LIFE-CYCLE	IK
72-2013	Beatriz Fabiola López Ulloa, Valerie Møller and Alfonso Sousa- Poza	HOW DOES SUBJECTIVE WELL-BEING EVOLVE WITH AGE? A LITERATURE REVIEW	HCM
73-2013	Wencke Gwozdz, Alfonso Sousa-Poza, Lucia A. Reisch, Wolfgang Ahrens, Stefaan De Henauw, Gabriele Eiben, Juan M. Fernández-Alvira, Charalampos Hadjigeorgiou, Eva Kovács, Fabio Lauria, Toomas Veidebaum, Garrath Williams, Karin Bammann	MATERNAL EMPLOYMENT AND CHILDHOOD OBESITY – A EUROPEAN PERSPECTIVE	HCM

Nr.	Autor	Titel	CC
74-2013	Andreas Haas, Annette Hofmann	RISIKEN AUS CLOUD-COMPUTING-SERVICES: FRAGEN DES RISIKOMANAGEMENTS UND ASPEKTE DER VERSICHERBARKEIT	HCM
75-2013	Yin Krogmann, Nadine Riedel and Ulrich Schwalbe	INTER-FIRM R&D NETWORKS IN PHARMACEUTICAL BIOTECHNOLOGY: WHAT DETERMINES FIRM'S CENTRALITY-BASED PARTNERING CAPABILITY?	ECO, IK
76-2013	Peter Spahn	MACROECONOMIC STABILISATION AND BANK LENDING: A SIMPLE WORKHORSE MODEL	ECO
77-2013	Sheida Rashidi, Andreas Pyka	MIGRATION AND INNOVATION – A SURVEY	IK
78-2013	Benjamin Schön, Andreas Pyka	THE SUCCESS FACTORS OF TECHNOLOGY-SOURCING THROUGH MERGERS & ACQUISITIONS – AN INTUITIVE META- ANALYSIS	IK
79-2013	Irene Probstlupow, Andreas Pyka and Barbara Heller-Schuh	TURKISH-GERMAN INNOVATION NETWORKS IN THE EUROPEAN RESEARCH LANDSCAPE	IK
80-2013	Eva Schlenker, Kai D. Schmid	CAPITAL INCOME SHARES AND INCOME INEQUALITY IN THE EUROPEAN UNION	ECO
81-2013	Michael Ahlheim, Tobias Börger and Oliver Frör	THE INFLUENCE OF ETHNICITY AND CULTURE ON THE VALUATION OF ENVIRONMENTAL IMPROVEMENTS – RESULTS FROM A CVM STUDY IN SOUTHWEST CHINA –	ECO
82-2013	Fabian Wahl	DOES MEDIEVAL TRADE STILL MATTER? HISTORICAL TRADE CENTERS, AGGLOMERATION AND CONTEMPORARY ECONOMIC DEVELOPMENT	ECO
83-2013	Peter Spahn	SUBPRIME AND EURO CRISIS: SHOULD WE BLAME THE ECONOMISTS?	ECO
84-2013	Daniel Guffarth, Michael J. Barber	THE EUROPEAN AEROSPACE R&D COLLABORATION NETWORK	IK
85-2013	Athanasios Saitis	KARTELLBEKÄMPFUNG UND INTERNE KARTELLSTRUKTUREN: EIN NETZWERKTHEORETISCHER ANSATZ	IK

<b>Nr.</b>	<b>Autor</b>	<b>Titel</b>	<b>CC</b>
86-2014	Stefan Kirn, Claus D. Müller-Hengstenberg	INTELLIGENTE (SOFTWARE-)AGENTEN: EINE NEUE HERAUSFORDERUNG FÜR DIE GESELLSCHAFT UND UNSER RECHTSSYSTEM?	ICT
87-2014	Peng Nie, Alfonso Sousa-Poza	MATERNAL EMPLOYMENT AND CHILDHOOD OBESITY IN CHINA: EVIDENCE FROM THE CHINA HEALTH AND NUTRITION SURVEY	HCM
88-2014	Steffen Otterbach, Alfonso Sousa-Poza	JOB INSECURITY, EMPLOYABILITY, AND HEALTH: AN ANALYSIS FOR GERMANY ACROSS GENERATIONS	HCM
89-2014	Carsten Burhop, Sibylle H. Lehmann-Hasemeyer	THE GEOGRAPHY OF STOCK EXCHANGES IN IMPERIAL GERMANY	ECO
90-2014	Martyna Marczak, Tommaso Proietti	OUTLIER DETECTION IN STRUCTURAL TIME SERIES MODELS: THE INDICATOR SATURATION APPROACH	ECO
91-2014	Sophie Urmetzer, Andreas Pyka	VARIETIES OF KNOWLEDGE-BASED BIOECONOMIES	IK
92-2014	Bogang Jun, Joongho Lee	THE TRADEOFF BETWEEN FERTILITY AND EDUCATION: EVIDENCE FROM THE KOREAN DEVELOPMENT PATH	IK
93-2014	Bogang Jun, Tai-Yoo Kim	NON-FINANCIAL HURDLES FOR HUMAN CAPITAL ACCUMULATION: LANDOWNERSHIP IN KOREA UNDER JAPANESE RULE	IK
94-2014	Michael Ahlheim, Oliver Frör, Gerhard Langenberger and Sonna Pelz	CHINESE URBANITES AND THE PRESERVATION OF RARE SPECIES IN REMOTE PARTS OF THE COUNTRY – THE EXAMPLE OF EAGLEWOOD	ECO
95-2014	Harold Paredes-Frigoletti, Andreas Pyka, Javier Pereira and Luiz Flávio Autran Monteiro Gomes	RANKING THE PERFORMANCE OF NATIONAL INNOVATION SYSTEMS IN THE IBERIAN PENINSULA AND LATIN AMERICA FROM A NEO-SCHUMPETERIAN ECONOMICS PERSPECTIVE	IK
96-2014	Daniel Guffarth, Michael J. Barber	NETWORK EVOLUTION, SUCCESS, AND REGIONAL DEVELOPMENT IN THE EUROPEAN AEROSPACE INDUSTRY	IK

## IMPRINT

University of Hohenheim  
Dean's Office of the Faculty of Business, Economics and Social Sciences  
Palace Hohenheim 1 B  
70593 Stuttgart | Germany  
Fon +49 (0)711 459 22488  
Fax +49 (0)711 459 22785  
[wiso@uni-hohenheim.de](mailto:wiso@uni-hohenheim.de)  
[wiso.uni-hohenheim.de](http://wiso.uni-hohenheim.de)