# Inflation aversion and equilibrium activity in Jensen (1993)

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**Abstract**

I study the implications of policymakers' degree of inflation aversion for real activity in my paper "International Monetary Policy Cooperation in Economies with Centralized Wage Setting" [*Open Economies Review* 4 (1993), 269-285]. It is simple to show that higher inflation aversion leads to higher employment and lower inflation in both policy regimes considered by the paper.

## 1   Introduction

In Jensen (1993), I showed how monetary policy regime choice has real effects through its influence on non-atomistic wage setters' behavior. More specifically, the strategic interaction between unions in two countries was shown to be affected by the choice of international policy regime (noncooperative or cooperative).

Each union is evaluating the effects of a unilateral nominal wage increase on employment and real consumer wages, taking as given nominal wages of the other country's union (unions play Nash), but taking into account the ensuing monetary policy by authorities in the two countries [authorities who care for employment and consumer price inflation (CPI)]. This Nash game leads to inefficiently low employment because each union by raising the nominal wage unilaterally is inducing a real exchange rate appreciation, which benefits real consumer wages. I.e., the union faces a more favorable employment real consumer wage trade off. In a symmetric equilibrium, however, the real exchange rate does not change, and both unions set too high nominal wages causing too high real wages, and thus too low employment.

Following Rogoff (1985b), the cooperative monetary policy stance is the most expansive (as policymakers no longer are restrained by the inflationary consequences of nominal exchange rate depreciations under unilateral expansions). From the perspective of each union, these additional expansionary tendencies are strongest in the foreign country as its authority — by nature of policy cooperation — is now obliged to

take part in fighting the employment consequences of a domestic wage increase. This implies that the union perceives a stronger real exchange rate appreciation than under noncooperative policymaking. As a result, wage pressures are strongest under policy cooperation than under noncooperation. Equilibrium employment is therefore lower under policy cooperation, and the paper thus exemplifies how the strategic interaction among non-atomistic unions are influenced by monetary policy.

One aspect not addressed explicitly in Jensen (1993), is how the policymakers' preferences *per se* affect equilibrium employment.[1] More specifically, in which sense the degree of inflation aversion ("conservatism" as defined by Rogoff, 1985a) affects equilibrium employment and inflation. This issue, however, is easy to clarify from the equilibrium characterizations of the model, and it turns out that in both regimes, more inflation aversion leads to higher equilibrium employment and lower CPI. This is also what one should expect, since with more policy attention towards stable CPI, each union realizes that the real exchange rate appreciation following a unilateral nominal wage increase will be smaller (the real exchange rate is by definition a determinant of CPI). Hence, wage restraint results.

The remainder of this note shows this formally.

# 2   Employment determination in Jensen (1993)

Equation (19) in Jensen (1993) establishes that (log) employment, $n$, in the domestic country is given by (the model is symmetric, so foreign employment will be the same):

$$n^i = \frac{\psi \left(1 - b_1^i\right)}{a_1^i}, \quad \psi > 0, \quad i = NC, C, \tag{1}$$

where $a_1^i$ is the domestic nominal wage elasticity of employment and $b_1^i$ is the domestic nominal wage elasticity of CPI, and where labels "*NC*" and "*C*" distinguish the non-cooperative and cooperative monetary policy regimes, respectively. These elasticities are, under the two regimes (cf. Appendix 1 of Jensen, 1993), given by

$$
\begin{aligned}
a_1^{NC} &= -\frac{\Gamma\left(\sigma + \Gamma^2\right)}{\left(\sigma + \Gamma^2\right)^2 - (\theta\Gamma)^2}, & b_1^{NC} &= \frac{\sigma\left(\sigma + \Gamma^2\right)}{\left(\sigma + \Gamma^2\right)^2 - (\theta\Gamma)^2}, \\
a_1^{C} &= -\frac{\Gamma\left(\sigma + \Gamma^2 - \theta^2\right)}{\left(\sigma + \Gamma^2 + \theta^2\right)^2 - (2\Gamma\theta)^2}, & b_1^{C} &= \frac{\sigma\left(\sigma + \Gamma^2 + \theta^2\right)}{\left(\sigma + \Gamma^2 + \theta^2\right)^2 - (2\Gamma\theta)^2},
\end{aligned}
\tag{2}
$$

with $\theta > 0$, $\Gamma \equiv 1 - \alpha + \theta$ and $0 < \alpha < 1$. Parameter $\sigma > 0$ is the weight on employment relative to inflation in the policymakers' objective functions. I.e., it is the *inverse* of "conservatism" in the sense of Rogoff (1985a).

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[1] Obviously, their preferences affect equilibrium employment; otherwise there would be no difference across the policy regimes under consideration.

It follows from (1) and (2) that employment rates in the regimes under consideration are, respectively,

$$n^{NC} = -\psi\Gamma\frac{\sigma + \Gamma^2 - \theta^2}{\sigma + \Gamma^2} < 0, \tag{3}$$

$$n^C = -\psi\frac{\left(\sigma + \Gamma^2 + \theta^2\right)\left(\Gamma^2 + \theta^2\right) - (2\Gamma\theta)^2}{\Gamma\left(\sigma + \Gamma^2 - \theta^2\right)} < 0. \tag{4}$$

# 3  The effects of inflation aversion

To examine the effects of inflation aversion under either regime, I use (3) and (4), to establish, respectively:

$$\frac{\partial n^{NC}}{\partial \sigma} = -\psi\Gamma\frac{\theta^2}{\left(\sigma + \Gamma^2\right)^2} < 0, \tag{5}$$

$$\frac{\partial n^C}{\partial \sigma} = -2\psi\theta^2\frac{\Gamma^2 - \theta^2}{\Gamma\left(\sigma + \Gamma^2 - \theta^2\right)^2} < 0. \tag{6}$$

Hence, employment under either regime decreases with $\sigma$. Put differently, more inflation attention (a fall in $\sigma$), or more "conservativeness," leads to higher employment. As CPI inflation, $q$, in the regimes under consideration are given by [cf. equations (24a) and (24b) in Jensen, 1993]

$$q^{NC} = -\frac{\sigma}{\Gamma}n^{NC} > 0, \quad q^C = -\frac{\sigma}{1-\alpha}n^C > 0,$$

respectively, it follows immediately that CPI is decreasing with more inflation attention.

# References

[1] Jensen, H., 1993, International Monetary Policy Cooperation in Economies with Centralized Wage Setting, Open Economies Review 4, 269-285.

[2] Rogoff, K., 1985a, The Optimal Degree of Commitment to an Intermediate Monetary Target, Quarterly Journal of Economics 100, 1169-1189.

[3] Rogoff, K., 1985b, Can International Monetary Policy Cooperation Be Counterproductive? Journal of International Economics 18, 199-217.