

Author comment on Anonymous referee report on “Inflation targeting is a success, so far: 100 years of evidence from Swedish wage contracts”, by Klas Fregert and Lars Jonung

The referee lists six “substantive problems”, which we respond to point by point.

1. The referee suggest that the synchronization of contracts between LO and SAF caused the lengthening of wage agreements in 1992. Wage agreements have been synchronized since 1956 through central wage agreements between LO and SAF in Sweden. Thus union contracts have been continuously synchronized from 1956 until now. This is mentioned in section 2.

The referee takes up the possibility that price uncertainty may have decreased for other reasons than inflation targeting, such as a decrease in oil price volatility. We discuss in general terms in section 3.2 the identification problem of separating out other reasons than inflation targeting as a cause of the increase in contract length after the introduction of inflation targeting. In panel studies, which include countries with and without inflation targeting, it is in principle easier to control for other sources of a decrease in volatility, such as oil shocks. Still the two panel studies we have found, see footnote 30, which try to control for other sources of lower and more stable inflation come to different conclusions of the link between inflation targeting and reduced inflation variability.

We view our one-country study of many regimes as a complement to the panel studies, which use before and after inflation targeting samples. We argue that the introduction of inflation targeting is linked in our historical sample to a decrease in perceived uncertainty (as opposed to actual used in the panel studies). We stress that the increase in length comes directly after the introduction of inflation targeting. This argument is strengthened by the observation that previous regime changes have changed length slowly after a regime change, such as the introduction of the Bretton Woods regime. This is discussed more fully in section 5. In addition, there was a major inflation shock 1989-1990 before the steep downturn of the Swedish economy 1992-94, which makes the introduction of 3-year contracts in 1995, not seen since 1969, even more remarkable. This also suggests a role for inflation targeting, since clear signs of any actual reduction in inflation variability had yet to materialize in 1995. We will look over our writing to emphasize this point.

2. According to the referee: “What specific features of inflation targeting contribute to a longer time horizon of wage contracts? This issue needs to be addressed in the paper. In particular, the forward-looking and the forecast-based nature of inflation targeting are likely to generate such result.” This is a point we will try to clarify. Our cross-regime test of the Gray length model is based on the assumption of nominal wages and prices following random walks. We show that the forecast uncertainty of the future level wages increases over the forecast horizon in direct proportion to the one-period forecast uncertainty, which in turn we show can be proxied by the actual standard deviation of one-year wage inflation. In this sense we treat all regimes alike. This is a natural

assumption for all the regimes we study, except perhaps the gold standard. The price level is a random walk in the inflation targeting regime, but with slower increase in forecast uncertainty than the other regimes due to how the policy is implemented (forward-looking) in addition to possible effects of its institutional anchoring. The gold standard regime appears in other studies (Benjamin Klein, 1976) to have exhibited less long-run price-level uncertainty than short-run uncertainty, due to a larger mean-reverting component in the price level. In our sample, however, the gold-standard period is a short one, and one which believe should be seen as special (see further point 4 and technical point 3 below).

3. According to the referee: “The authors’ imply that inflation targeting has reduced ‘macroeconomic uncertainty’ by containing wage indexation.” This must be a misunderstanding by the referee. We only take up indexation as a response of the contract makers to increased perceived uncertainty. It is treated as an imperfect substitute for length reductions and therefore as an indicator of the perceived macroeconomic uncertainty in addition to length. We do not mean to discuss the causal link from wage indexation to macroeconomic uncertainty.

4. According to the referee “It seems that during the gold standard period and the later stage of Bretton Woods fixed exchange rate regime the wage contract length exceeded the three-year period prevalent during the inflation targeting policy. Therefore, it needs to be proven that inflation targeting is still superior to these two alternative regimes.” As we mention, the long contracts during the gold standard and the Bretton Woods period only lasted for a short period in contrast to the inflation targeting regime. We believe it is an important aspect of the inflation targeting regime that it has lasted a long period in a secular perspective, with five successive long three-year wage contracts. In this respect it deserves to be called a success relative to the gold standard and the Bretton Woods periods. This finding complements the panel study of the length of the inflation targeting regimes by Rose (see footnote 30). In addition, we argue that the gold standard period in our sample is special due to the general strike in 1909 and that it was the starting period of collective agreements, which we discuss in section 5.

5. According to the referee “The variance analysis based on Eq.(3) and reported in Table 2 seems rather irrelevant for this paper considering that the variance of wage contracts during the inflation targeting period is zero.” We are unsure of the meaning of this point. Table 2 gives the regression of *average* new length per regime as a function of the standard deviation of the wage inflation variance as specified in equation 3 and derived from Gray (1978). The *variance* of length does not figure in the regression.

6. The referee asks: “What was the role of fiscal discipline in expanding the length of wage contracts?” We will add to the discussion of the role of fiscal discipline in the paper that fiscal discipline was strong during the gold standard and the during the Bretton Woods period, without leading to sustained periods of long contracts. In addition, even though strong signals had been given beginning in 1994 about the need for fiscal

discipline, the budget deficits were still large and the new budget law was not introduced until 1996, that is after the introduction of inflation targeting and three-year contracts.

The referee also takes up “three technical imperfections”.

1. We will shorten the abstract
2. We will make a cross-reference to footnote 30, which cites four recent empirical references.

3. The referee notes that “the coefficient of variation is considerably lower for both the gold standard and the Bretton Woods regime periods. This deserves further explanation.” Regarding the gold standard, we only use the 1908-1914 period, when prices were rising at a faster pace than during the whole classical gold standard period. Regarding the Bretton Woods period, real wage growth was higher than all the other periods, and hence also nominal wage growth for a given inflation rate. This explains that the coefficient of variation is lower in those periods than during the inflation targeting regime. The Gray theory is predicated on the contract makers minimizing the dead-weight loss, which is proportional to the standard deviation of nominal wage growth, not the coefficient of variation.