A Appendix

A.1 Summary of the equations

$$
\begin{aligned}
\widetilde{y}_t &= -\frac{1}{\sigma}\left(i_t - E_t\left[\pi^p_{t+1}\right] - r^n_t\right) + E_t\left[\widetilde{y}_{t+1}\right] \\
\widetilde{y}_t &= y_t - y^n_t \\
y^n_t &= \psi^n_{ya} a_t + \vartheta^n_y \\
y_t &= a_t + (1-\alpha) n_t \\
r^n_t &= \rho + \sigma \psi^n_{ya} E_t \Delta a_{t+1} \\
\pi^p_t &= s^p_{sp}\pi^{p,sp}_t + s^p_{si}\pi^{p,si}_t + s^p_{fl}\pi^{p,fl}_t + s^p_{rot}\pi^{p,rot}_t \\
\pi^w_t &= s^w_{sp}\pi^{w,sw}_t + s^w_{si}\pi^{w,si}_t + s^w_{fl}\pi^{w,fl}_t + s^w_{rot}\pi^{w,rot}_t \\
w_t &= w_{t-1} + \pi^w_t - \pi^p_t \\
w^n_t &= \psi^n_{wa} a_t + \vartheta^n_w \\
i_t &= \lambda i_{t-1} + (1-\lambda)\left(\rho + \phi_p \pi^p_t + \phi_w \pi^w_t + \phi_y \widetilde{y}_t\right) + \nu_t \\
a_t &= \rho_a a_{t-1} + \epsilon^a_t \\
\nu_t &= \epsilon^\nu_t \\
\pi^{p,sp}_t &= \beta E_t\left[\pi^p_{t+1}\right] - \frac{\left(\theta_{cp}-1\right)}{\theta_{cp}} \frac{(\alpha-1)\left(\beta\theta_{cp}-1\right)\widetilde{\omega}_t}{\left(1-\alpha+\alpha\epsilon_p\right)} + \frac{\left(\theta_{cp}-1\right)}{\theta_{cp}} \frac{\alpha\left(\beta\theta_{cp}-1\right)\widetilde{y}_t}{\left(1-\alpha+\alpha\epsilon_p\right)} \\
\pi^{p,si}_t &= \frac{1-\theta_{ip}}{\theta_{ip}} \sum_{j=1}^{\infty} \theta^j_{ip} E_{t-j}\left[\frac{\alpha\Delta\widetilde{y}_t - (\alpha-1)\Delta\widetilde{\omega}_t}{\alpha(\epsilon_p-1)+1} + \pi^p_t\right] + \frac{1-\theta_{ip}}{\theta_{ip}} \frac{\left(\alpha\widetilde{y}_t - (\alpha-1)\widetilde{\omega}_t\right)}{(\alpha(\epsilon_p-1)+1)} \\
\pi^{p,fl}_t &= \pi^p_t - \frac{(\alpha-1)\widehat{\omega}_t}{\alpha\epsilon-\alpha+1} + \frac{\alpha\widetilde{y}_t}{\alpha\epsilon-\alpha+1} \\
\pi^{p,rot}_t &= \pi^p_{t-1} \\
\pi^{w,sw}_t &= \beta E_t\left[\pi^w_{t+1}\right] - \frac{(\theta_{cw}-1)}{\theta_{cw}} \frac{\widetilde{\omega}_t\left(\beta\theta_{cw}-1\right)}{\left(\phi\epsilon_w+1\right)} + \frac{(\theta_{cw}-1)}{\theta_{cw}} \frac{\widetilde{y}_t(\alpha\sigma-\sigma-\phi)\left(\beta\theta_{cw}-1\right)}{(\alpha-1)\left(\phi\epsilon_w+1\right)} \\
\pi^{w,si}_t &= \frac{1-\theta_{iw}}{\theta_{iw}} \sum_{j=1}^{\infty} E_{t-j}\theta^j_{iw}\left[\pi^w_t + \frac{\Delta\widetilde{y}_t((\alpha-1)\sigma-\phi) - (\alpha-1)\Delta\widetilde{\omega}_t}{(\alpha-1)\left(\phi\epsilon_w+1\right)}\right] \\
&\quad + \frac{(1-\theta_{iw})}{\theta_{iw}} \frac{\left(\widetilde{y}_t((\alpha-1)\sigma-\phi) - (\alpha-1)\widetilde{\omega}_t\right)}{\left((\alpha-1)\left(\phi\epsilon_w+1\right)\right)} \\
\pi^{w,fl}_t &= \pi^w_t + \frac{\widetilde{y}_t(\alpha\sigma-\sigma-\phi)}{(\alpha-1)\left(\phi\epsilon_w+1\right)} - \frac{\widehat{\omega}_t}{\phi\epsilon_w+1} \\
\pi^{w,rot}_t &= \pi^w_{t-1}.
\end{aligned}
$$

A.2 Convergence test for the simulated chain

In order to evaluate if the samples of the chain are truly representatives of the underlying stationary distribution of the Markov Chain, the procedure suggested by Geweke (1999) was implemented. This method compares the mean of two non overlapped portions of the chain, in particular, it compares draws between 5000 and 9000 to draws between 150000 and 250000. The results of a test for equality of means is presented in Table 6. It is important to note the differences in the p-value with different tapering values, this indicates the presence of auto-correlation in the draw, and therefore, as a more reliable p-value is this case is the one with 15% taper.

A.3 Data

The data used in the estimation is from the United States for the period of 1955-2008 in quarterly periodicity. All data observations are from the Federal Reserve Bank of St. Louis database. In this paper four variables were used:

- Real Gross Domestic Product, Billions of Chained 2009 Dollars, Quarterly, Seasonally Adjusted Annual Rate (*GDPC1*).
- Gross Domestic Product: Implicit Price Deflator, Index 2009=100, Quarterly, Seasonally Adjusted (*GDPDEF*).
- Nonfarm Business - Hourly compensation - Index, base year = 100 - 2009 (*PRS85006103*).
- Effective Federal Funds Rate, Percent, Quarterly, Not Seasonally Adjusted (*FEDFUNDS*).

Table 6: Geweke convergence test

Parameter	p-value	p-value 4% taper	p-value 8% taper	p-value 15% taper
σ	0.997	0.999	0.999	0.999
α	0.000	0.730	0.724	0.703
θ_{cw}	0.940	0.993	0.993	0.993
θ_{cp}	0.000	0.464	0.459	0.411
θ_{iw}	0.000	0.421	0.380	0.288
θ_{ip}	0.000	0.404	0.382	0.372
ϕ_p	0.000	0.639	0.616	0.631
ϕ_w	0.134	0.856	0.855	0.862
ϕ_y	0.000	0.078	0.066	0.061
ρ_a	0.000	0.517	0.488	0.435
$\hat{s}^p_{sp}$	0.000	0.408	0.349	0.272
$\hat{s}^p_{si}$	0.000	0.146	0.143	0.157
$\hat{s}^p_{fl}$	0.002	0.725	0.727	0.705
$\hat{s}^w_{sp}$	0.000	0.575	0.549	0.503
$\hat{s}^w_{si}$	0.000	0.165	0.130	0.078
$\hat{s}^w_{fl}$	0.000	0.316	0.374	0.392
λ	0.000	0.158	0.120	0.088
σ_a	0.000	0.343	0.307	0.257
σ_v	0.165	0.884	0.868	0.851
σ^{me}_y	0.718	0.971	0.971	0.970
$\sigma^{me}_{\pi_w}$	0.000	0.141	0.132	0.157

Note: The parameters are: inverse of the elasticity of intertemporal substitution (σ), share of capital in production (α), rigidity in wages a la Calvo (θ_{cw}), rigidity in prices a la Calvo (θ_{cp}), information rigidity in wages (θ_{iw}), information rigidity in prices (θ_{ip}), reaction to price inflation (ϕ_p), reaction to wage inflation (ϕ_w), reaction to output gap (ϕ_y), persistence for technology process (ρ_a), nominal interest rate smoothing (λ), share of firms with sticky prices (s^p_{sp}), share of firms with sticky information in prices (s^p_{si}), share of firms with flexible prices (s^p_{fl}), share of firms with rule-of-thumb prices (s^p_{rot}), share of households with sticky wages (s^w_{sp}), share of households with sticky information in wages (s^w_{si}), share of households with flexible wages (s^w_{fl}), share of households with rule-of-thumb wages (s^w_{rot}), standard deviation for technology process (σ_a), standard deviation for monetary process (σ_v), standard deviation for measurement error in output gap (σ^{me}_y) and standard deviation for measurement error in wage inflation ($\sigma^{me}_{\pi_w}$).