Influences of Different Levels of Equilibrium on the Endogenous NAIRU by Country and, the Neutrality of the Financial/Market Assets to the Real Assets: Comparing KEWT 3.09 with 4.10

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(Received on May 7, 2010)

This paper *first* briefly summarizes the mechanics of endogenous equilibrium measured by using five rectangular hyperbola and one linear equation in the endogenous model and the data-sets of KEWT. Equilibrium is directly measured by $speed(i)$ and $speed(n_E)$, where $i = I/Y$ is the ratio of net investment to output and n_E is the rate of change in population in equilibrium. Equilibrium holds when speed years are within some ranges, optimum and effective. Disequilibrium holds when speed years are minus and 'between above zero and five years' defined as 'close-to-disequilibrium.' The speed of convergence, $1/\lambda^*$, or the speed years to reach 'at convergence' (the steady-state) is measured by using $\lambda^* = (1-\alpha)n_E + (1-\delta_0)g_A^*$. This implies equilibrium holds with nine endogenous parameters, α, β^*, δ_0, Ω, λ^*, and i, i_G, n_E, $n_{E(G)}$ and that sustainable robustness and economic stages are involved in the ranges of equilibrium.

Second, this paper compares the results of equilibrium using KEWT 4.10 with those using KEWT 3.09. The data-sets of KEWT 4.10 present 59 countries 1990–2008 while the data-sets of KEWT 3.09 present 58 countries 1990–2007, each by sector (the government and private sector, and the total economy as the weighted average). If equilibrium measured by speed years exists 'only one' by country and by year, it is not necessary for policy-makers to compare KEWT

3.09 with KEWT 4.10 in equilibrium. However, the author conducted an experiment using KEWT 3.09 and KEWT 4.10, where KEWT 3.09 and 4.10 each show that the wage rate by sector is the same. For the measurement/adjustment of equilibrium using speed years, KEWT 3.09 used both i, i_G, and n_E, $n_{(EG)}$ while KEWT 4.10 used principally i, and i_G, mostly under the given actual growth rate of population, $n = (L_t - L_{t-1}) / L_{t-1}$ by year. Some countries express disequilibrium several times in 1990–2007/8 (as observed by Greece). In these cases, the author have to lower n down to n_E, where $n_E < n$. This implies that the endogenous rate of unemployment occurs in equilibrium. As a result, the non-accelerating-inflation rate of unemployment (endogenous NAIRU) shows not a vertical line at $n_E = n$ but a zigzag at $n_E < n$, on the x axis. Furthermore, the financial/market assets are neutral to the real assets but, a little bit differently, due to the difference of the ranges of equilibrium. These results are shown using figures by country and by sub-area soon below, with the contents of figures.

First, the author summarizes the mechanics of endogenous equilibrium by country and by sector as follows (see Figure 1): In the endogenous model, the author assumes that the endogenous balance of payments equals the actual balance of payments by year. As a result, $(S_{ENDOG} - S_{ACTUAL}) = -(I_{ENDOG} - I_{ACTUAL})$ holds by year. As means to get to equilibrium, two ratios are used: (1) $NDI_{ACTUAL} / GDP_{ACTUAL}$ with GDP_{ACTUAL} and (2) $T_{AX} / Y = Y_G / Y$ in equilibrium. When $NDI_{ACTUAL} / GDP_{ACTUAL}$ is not available in statistics, a tentative value of NDI / GDP is used at the starting point of time. It is true in equilibrium that the higher the NDI / GDP the higher endogenous national disposable income, *NDI*, is and that the higher the $T_{AX} / Y = Y_G / Y$ the higher the government size is, with the higher $i_G = I_G / Y_G$. In short, NDI / GDP and $T_{AX} / Y = Y_G / Y$ determine the magnitudes of the total economy and government sizes in equilibrium. Policy-makers and people must decide the magnitudes

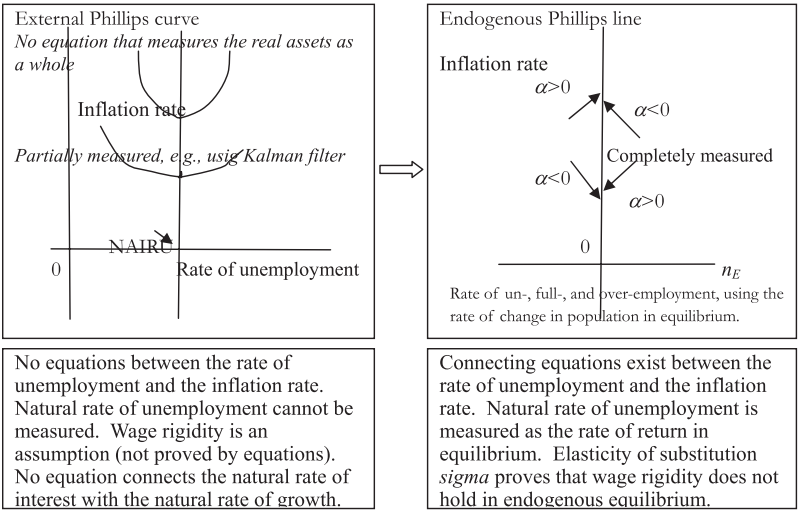


Figure 1 Illustration of the Phillips curve and the endogenous Phillips line

from their philosophy and national taste, comparing i, i_G, n_E, $n_{E(G)}$, with n.

Once the ranges of equilibrium are determined, the endogenous inflation/deflation rate and also the maintenance of economic stage under a moderate growth rate of output in equilibrium are settled, by using $r^*(i)$ and $r^*(n_E)$ and also $\Omega^*(i)$ and $\Omega^*(n_E)$. This implies that the mechanics of endogenous equilibrium is composed of not only *speed*(i) and *speed*(n_E) but also $r^*(i)$, $r^*(n_E)$, $\Omega^*(i)$ and $\Omega^*(n_E)$. Therefore, the ranges of equilibrium must take into account the speed, the series of rates of return, and the capital-output ratio; watching the endogenous rate of inflation by the horizontal asymptote (H.A.) of $r^*(i)$ and the upper limit of the capital-output ratio by the H.A. of $\Omega^*(i)$. If the ranges of equilibrium are inappropriate, the endogenous NAIRU produces unemployment and expands inequality of income. Nine endogenous parameters, $\alpha, \beta^*, \delta_0, \Omega, \lambda^*$ and i, i_G, n_E, $n_{E(G)}$, must improve as a whole by year, by executing urgent policies by year (for hyperbola equations, see Kamiryo in *JES* 14 (Sep) 2010 Appendix at the end).

Second, the author summarizes the influences of different levels of equilibrium by sector, comparing the method at KEWT 4.10 with the method at KEWT 3.09 as follows: The method of KEWT 4.10 to measure equilibrium is to determine the ratio of net investment to output at the total economy and at the government sector, where the ratio of net investment to output at the private sector is determined simultaneously. When this method is not enough to shift a tentative disequilibrium to equilibrium, the author reduces the actual growth rate of population, n, gradually down to close-to-zero or minus, where $n_E < n$. At the same time, the author changes $T_{AX} / Y = Y_G / Y$, the size of the government sector. Furthermore, the author adjusts NDI / GDP, with $T_{AX} / Y = Y_G / Y$. The responses differ by country since each country has its own characteristics of robustness and economic stage. Each country's robustness is determined by the combination of nine endogenous parameters. If the resultant speed years are still shown by minus, this situation is under disequilibrium. If the resultant speed years are shown by the range of above zero to five years, this situation is under close-to-disequilibrium. Philosophy behind this method is the priority of full-employment and the government sector. The government sector attains the vertical NAIRU at the sacrifice of the private sector.

On the other hand, philosophy underlying in the method applied to KEWT 3.09 is the priority of the total economy settlement at the sacrifice of the government sector. The actual growth rate of population is used at the total economy. At the government sector, the rate of change in population in equilibrium is more positively taken into consideration, under $L_G = L(W_G / W)$ to $n = n_G$. Figures Series A show KEWT 4.10 and Figures Series B show KEWT 3.09. The difference of the two methods is delicate yet, the influence on the endogenous NAIRU is significant.

Theoretically, full-employment is guaranteed in equilibrium, as shown in the earlier literature. Why, then, does unstable endogenous NAIRU occur often in

some countries? This is because the government sector loses the discipline due to 'votes' commonly associated with democracy. Policy-makers cannot guard against huge deficit and accept its miserable results. Typical cases are shown by Greece and Japan. The size of government sector remains at 12.5% to 25% of the total economy. Nevertheless, the government sector influences the total economy and the private sector much more than expected. This is clarified by the method to obtain equilibrium, using endogenous taxes, which are equal to endogenous government output. The huge deficit beyond the Maastricht Convergence Criteria destroys sustainable robustness of a country. This is proved using the endogenous model. Fiscal policy determines the future of each country over next generations. Democracy and Constitution must fulfil the welfare of next generations. Then, sustainable robustness is guaranteed at the current generation; give and given.

Why does deficit influence robustness of the total economy so severely? This is shown in **Figures 2** and **3** and proved using the coefficient of diminishing returns, $delta_0$, where $speed(i)$ and $speed(n_E)$ are interrelated. The relationships between i and n_E and between n_E and $delta_0$ are crossing at $speed(i)$ and $speed(n_E)$. And, the quantitative net investment to total net investment at the government sector, $beta_G$, is mostly inferior to $beta_{PRI}$ at the private sector.

1. $speed(i)$ as the speed year function of $i = I / Y$: The vertical asymptote (*V.A.*) is minus under $n_E > 0$, and the *V.A.* is plus under $n_E < 0$. To get the same level of speed years, $i = I / Y$ at $n_E > 0$ is less than $i = I / Y$ at $n_E < 0$. This presents a base for the hypothesis that an economy maintains the rate of change in population under equilibrium towards moderate economic growth.
2. $speed(n_E)$ as the speed year equation of n_E: The *V.A.* is minus under $0 < \delta_0 > 1$, and the *V.A.* is plus under $\delta_0 < 0$, where $\delta_0 = 1 - \left(LN(\frac{1}{\Omega^*}) / LN(1-\beta^*) / \beta^* \right)$.

To get the same level of speed years, the n_E at $0 < \delta_0 > 1$ must be less than

In endogenous equilibrium: capital, *K*, and the rate of return, $\boldsymbol{r = \Pi/K}$, are consistent with all other data, starting with $(\mathbf{1}-\boldsymbol{\alpha}) = (\frac{C}{Y})/(\frac{rho}{r})$ and $\boldsymbol{k} = (\boldsymbol{\alpha}/(\mathbf{1}-\boldsymbol{\alpha}))/(\frac{r}{w})$ under changing

$(\mathbf{1}/\boldsymbol{\lambda}^*)(\boldsymbol{i})$ **Hyperbola**	$(\mathbf{1}/\boldsymbol{\lambda}^*)(\boldsymbol{n})$ **Hyperbola**	$\boldsymbol{n_E} < 0$	$\boldsymbol{\delta_0} < 0$	Vertical asymptote is plus and upward to the right.
		$\boldsymbol{n_E} > 0$	$\mathbf{0} < \delta_0 > 1$	Vertical asymptote is minus and downward to the right.
$\boldsymbol{r}^*(\boldsymbol{i})$ **Hyperbola**	$\boldsymbol{r}^*(\boldsymbol{n})$ **Linearly,**	$\boldsymbol{\alpha} < 0$	$\boldsymbol{\alpha} < 0$	Horizontal asymptote is minus and below zero (**deflation** rate).
		$\boldsymbol{\alpha} > 0$	$\boldsymbol{\alpha} > 0$	Horizontal asymptote is plus and above zero (**inflation** rate).

Endogenous equilibrium differs from Kalman filter (1960) school of time series estimation. Final destination of this school may reach endogenous model and its data-sets of KEWT 3.09.

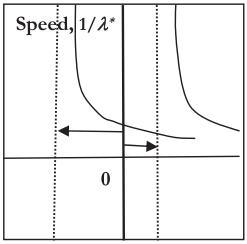
Figure 2 Four equations behind full-employment and deflation/inflation

the n_E at $\delta_0 < 0$. This leads to the hypothesis that full-employment is easier at $0 < \delta_0 > 1$ than at $\delta_0 < 0$. The ratio of qualitative investment to quantitative investment $B^* = (1-\beta^*)/\beta^*$ will be more accelerated to cope with lower $i = I/Y$. Here is a stimulus to the optimal range of speed years to $i = I/Y$.

3. Integrating 1 and 2: It is essential for equilibrium and full-employment to control the level of $i = I/Y$. One policy shown in the above 1 is to decrease the speed years and accordingly, $i = I/Y$, by lowering the rate of change in population in equilibrium, n_E. The other policy shown in the above 2 is to decrease speed years and accordingly, n_E, by improving the condition of $0 < \delta_0 > 1$. Both policies are tightly related each other. There is no inconsistency between $i = I/Y$, n_E, and $delta_0$ and also between equilibrium and sustainable growth, where hidden parameters are *beta* and the capital-output ratio, and accordingly, the endogenous rate of technological progress, g_A^*.

Finally, the author discusses the ranges of equilibrium and national policies supported by philosophy of a country. Each country has its own philosophy and national taste. These are expressed by sustainable robustness and economic

1. Speed year equations of i and n_E: to discriminate equilibrium



(1) X axis, $i = I/Y$
Horizontal asymptote (HA)=0

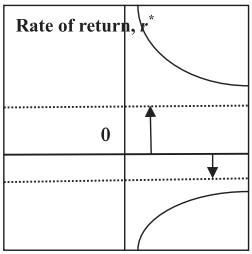
Vertical asymptote (VA): $i=\frac{-n(1-\alpha)}{(1-\beta^*)(1-\delta_0)}$

VA is minus if $< \delta_0 > 1$, and plus if $\boldsymbol{\delta_0} > 1$.

(2) X axis, rate of change in population, n_E; towards full-employment, $n_E = n$
Horizontal asymptote (HA)=0

Vertical asymptote (VA): $n_E=\frac{-i(1-\beta^*)(1-\delta_0)}{(1-\alpha)}$

2. Rate of return equations of i and n_E: to discriminate inflation/deflation



(1) X axis, $i = I/Y$

Horizontal asymptote (HA): $\frac{\alpha(1-\beta^*)(1+n)}{\beta^*(1-\alpha)}$

HA is minus if $\alpha<0$, and plus if $\alpha>0$.

Vertical asymptote (VA)=0

(2) X axis, growth rate of population, n_E
This is a linear, where

Intercept: $\frac{\alpha(1-\beta^*)}{\beta^*(1-\alpha)}$ and gradient: $\frac{\alpha(1-\beta^*)}{\beta^*(1-\alpha)} + \frac{\alpha(1-\alpha)}{i\cdot\beta^*(1-\alpha)}$

Note: How to measure $delta_0$ as a key ratio to determine equilibrium by policy-makers

The rate of technological progress and the rate of unemployment are involved in $delta_0$.

Instead of using A as a stock, using $B^* = (1-\beta^*)/\beta^*$ as a flow, define B as $B^*_{TFP} \equiv (B^*)^{1-\delta_0}$.

Since $\Omega = \frac{k^{1-\alpha}}{A}$ holds always in the C-D production function, this capital-output ratio is expressed as $\Omega = \frac{k^{1-\alpha}}{B_{TFP}\cdot k^{1-\delta_0}}$ or $\Omega = \frac{k^{\delta_0-\alpha}}{B_{TFP}}$. At convergence, $\alpha = \delta_0$ holds under constant returns to capital, resulting in $1 = k^{\delta_0-\alpha}$. Then, $\Omega^* = \frac{1}{B^*_{TFP}}$ or $\Omega^* = \frac{1}{(B^*)^{1-\delta_0}}$ holds, resulting in $(B^*)^{1-\delta_0} = \frac{1}{\Omega^*}$. Therefore, $\delta_0 = 1 - \frac{LN(1/\Omega^*)}{LN(B^*)}$ is derived.

$y = A\cdot k^{\alpha}$ is not consistently connected with $B_{TFP} \equiv B^{1-\delta_0}$ in the transitional path over years, except for at convergence. The purpose of $B_{TFP} : TFP_B \equiv B_{TFP}\cdot k^{1-\delta_0}$ is to derive the value of $delata_0$.

Figure 3 Basics of four equations to net investment and population growth

stages. Speed years in equilibrium differ by philosophy. Or, philosophy influences the speed years in equilibrium. KEWT 3.09 and 4.10 were each measured, for international comparison, as one of most plausible data-sets by country and by sector. However, policy-makers of a country have much information within the country so that they are able to supply pertinent policies and accordingly strategies and tactics to support policies. Nine endogenous parameters produce the author's endogenous Economic Indicators (E.I.). The endogenous E.I. has its common characteristics and movements, which are clarified by simulations using 1–*alpha* and 1–*beta* (see Kamiryo, *JES* 14 (Sep) 2010).

Taking into consideration the characteristics and movements of the endogenous E.I., policy-makers of a country are able to execute urgent policies towards optimum range of equilibrium by year.

It is noted that the endogenous NAIRU is vividly shown 'by country' as in Figures of series of A and B but, not so much shown 'by sub-area' as in Figures of series of NA and NB. 'By country' and 'by sub-area' each has implications. According to Figures NA and NB, the ratio of money supply *M2* to endogenous capital *K*, $M2/K$, proves the neutrality of money to the real assets. Also, exchange rate per US$ or Euro to the difference of endogenous growth rates of per capita output between two countries also proves the strict existence of the neutrality of exchange rate. The difference of method to measure the ranges of equilibrium slightly influences the level of neutrality.

It is true that fiscal policy determines the level of the sustainable robustness. The author intends to further research the differences between the government sector (G) and the private sector (PRI), in terms of sustainable robustness and the resultant endogenous NAIRU by country, when KEWT 5.11 data-sets 1990–2009 are measured using IMF data 2009.

Contents of figures

Correction to PRSCE 50 (Sep, 1); page172, in Note of the author's "Outline of Part III and Part IV in KEWT 3.09 by Sector"

In the above Note, the author defined three shapes each as the base of rectangular equilateral triangle. After this Note, the author redefined 'the Shape' as 'the Width,' where the Shape is newly defined as the hypotenuse of the same rectangular equilateral triangle. The subscript terminology of the Width or the Shape is expressed using the x axis or hyperbola equation. This is because the sum of the *V.A.* and the Width determines effective range by hyperbola.

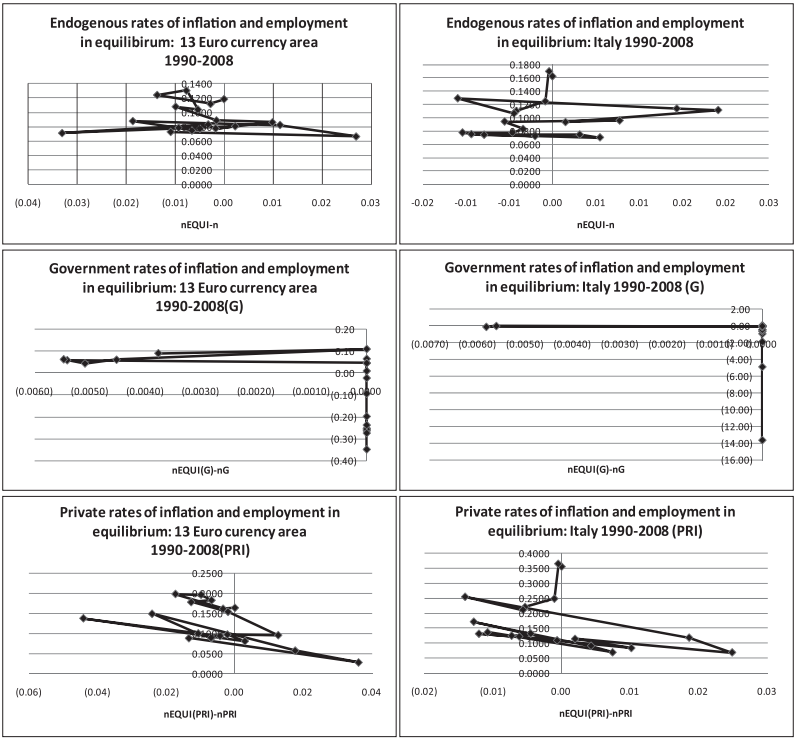
$$i_{Width(speed)} = \sqrt{\frac{1}{(1-\beta^*)(1-\delta_0)}}; \quad i_{Shape(speed)} = \sqrt{\frac{2}{(1-\beta^*)(1-\delta_0)}}.$$

$$n_{Width(speed)} = \sqrt{\frac{1}{1-\alpha}}; \quad n_{Shape(speed)} = \sqrt{\frac{2}{1-\alpha}}.$$

$$i_{Width(\Omega^*)} = \sqrt{\left|\frac{-\beta^* \cdot n(1-\alpha)^2}{(1-\beta^*)^2(1+n)^2}\right|}; \quad i_{Shape(\Omega^*)} = \sqrt{2\left|\frac{-\beta^* \cdot n(1-\alpha)^2}{(1-\beta^*)^2(1+n)^2}\right|}.$$

$$n_{Width(\Omega^*)} = \sqrt{\left|\frac{\beta^* \cdot i(1-\alpha)}{i(1-\beta^*)+(1-\alpha)}\right|}; \quad n_{Shape(\Omega^*)} = \sqrt{2\left|\frac{\beta^* \cdot i(1-\alpha)}{i(1-\beta^*)+(1-\alpha)}\right|}.$$

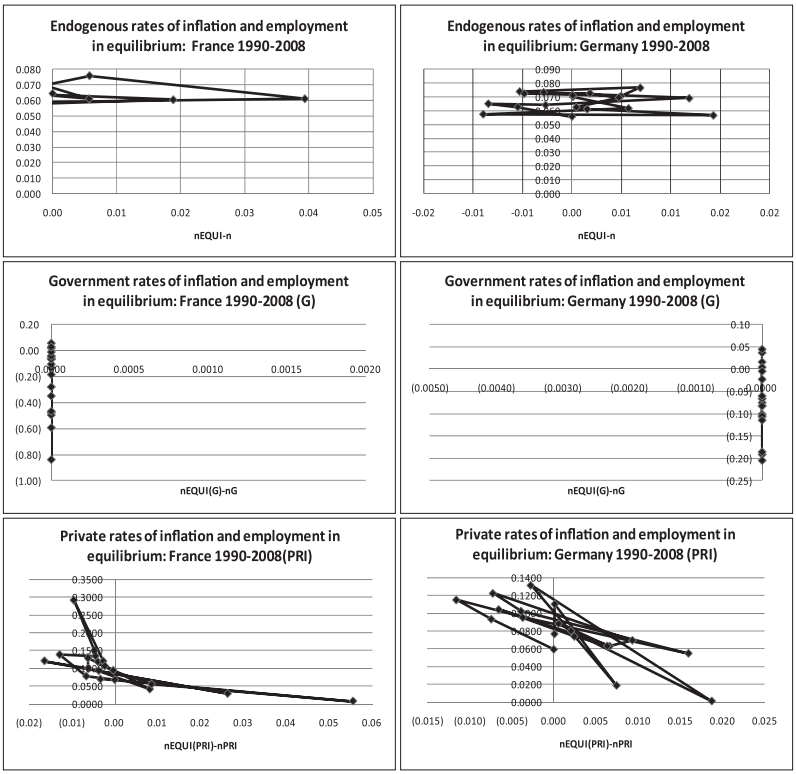
$$i_{Width(r^*)} = \sqrt{\left|\frac{\alpha \cdot n}{\beta^*}\right|}; \quad i_{Shape(r^*)} = \sqrt{2\left|\frac{\alpha \cdot n}{\beta^*}\right|}.$$



Note: Difference between the actual growth rate of population and the rate of change in population in equilibrium clarifies the level of unemployment, by sector (the total, the government, and private sectors). If this difference is minus, no unemployment exits at the 2nd quadrant and, if this difference is plus, unemployment exist at the 1st quadrant. Also, if the inflation rate is minus, inflation turns to deflation. An abnormal point of year shows a falling into disequilibrium, which is principally erased in each figure, so as to have the rates of un-, full, and over- employment precisely clarified.

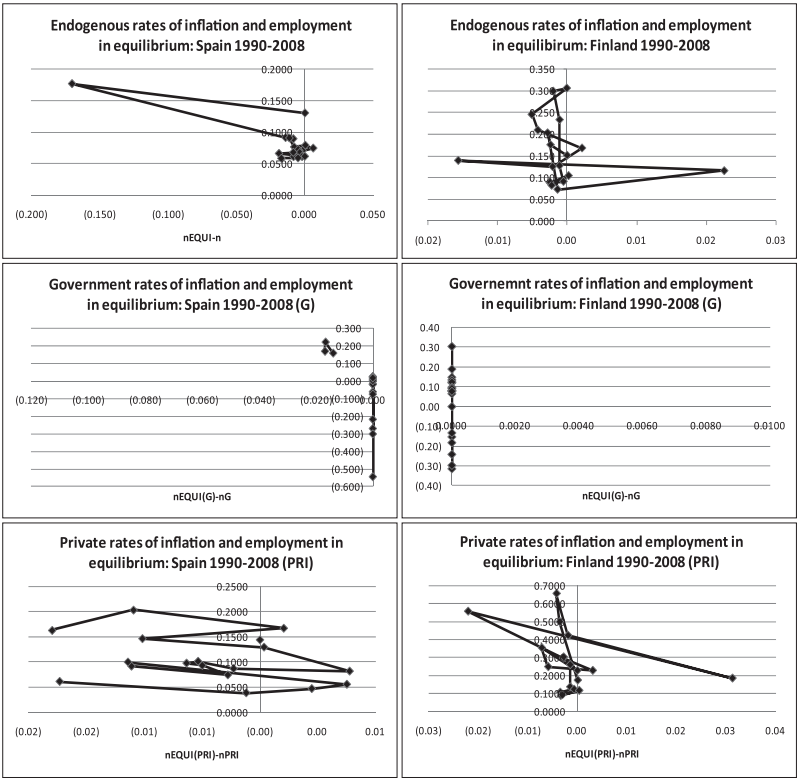
Data source: KEWT 4.10 of fifty-nine countries by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure A1 Relationship between endogenous rates of inflation and employment in equilibrium (1): Euro currency area and Italy 1990–2008



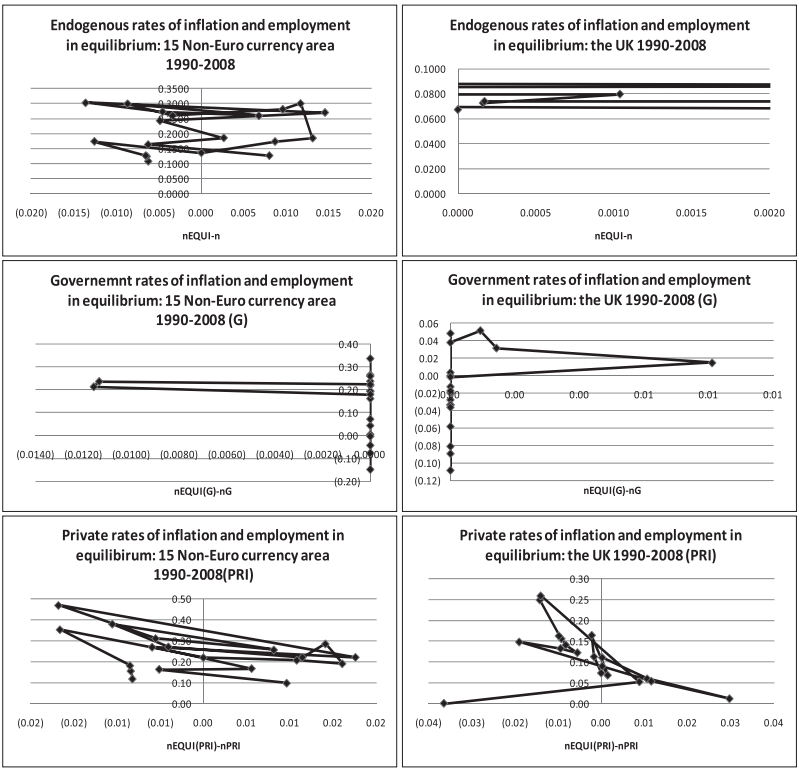
Note: In equilibrium, full-employment matches the vertical line on the x axis (where, $n_{EQUI} = n$). Full-employment with various rates of inflation and deflation corresponds with the external NAIRU.

Figure A2 Relationship between endogenous rates of inflation and employment in equilibrium (2): France and Germany 1990–2008



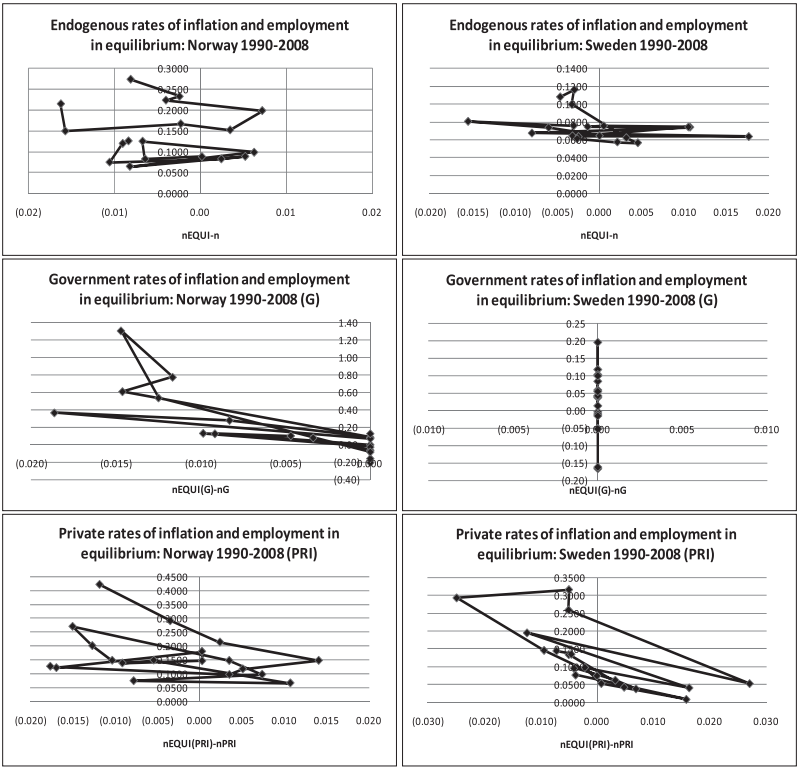
Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure A3 Relationship between endogenous rates of inflation and employment in equilibrium (3): Spain and Finland 1990–2008



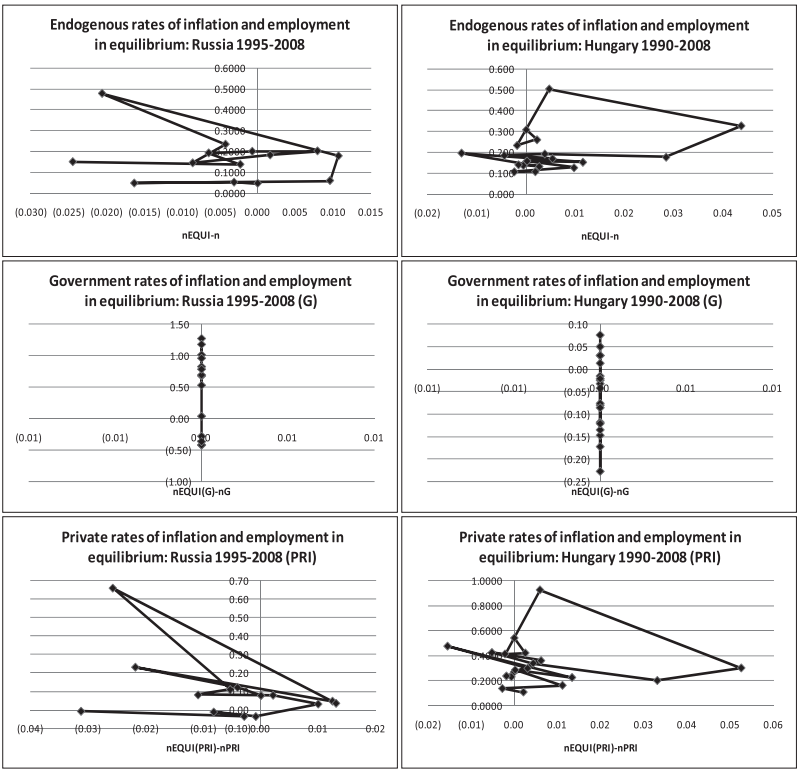
Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure A4 Relationship between endogenous rates of inflation and employment in equilibrium (4): Non-Euro currency area and the UK 1990–2008



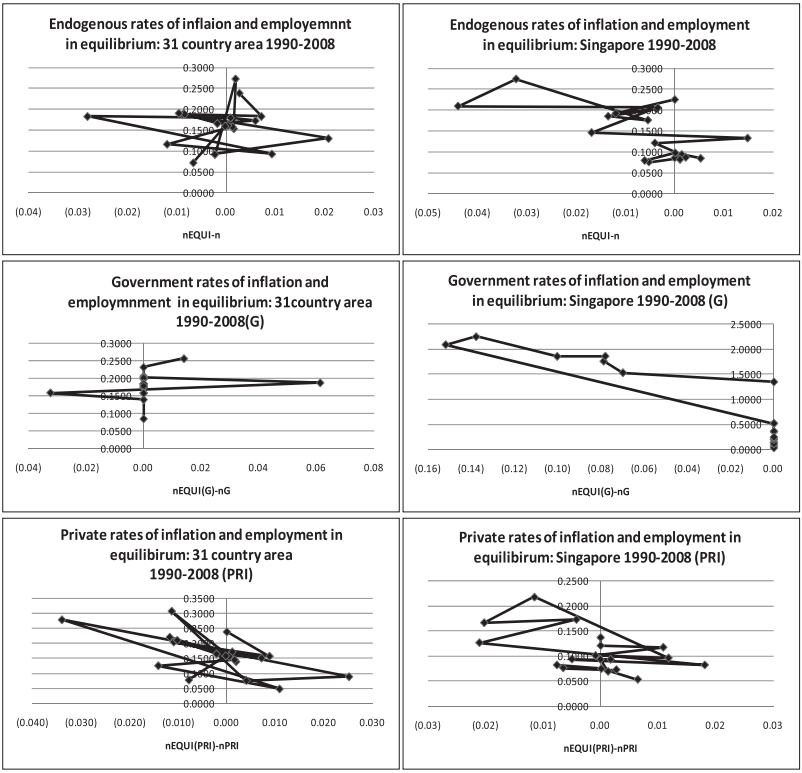
Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure A5 Relationship between endogenous rates of inflation and employment in equilibrium (5): Norway and Sweden 1990–2008



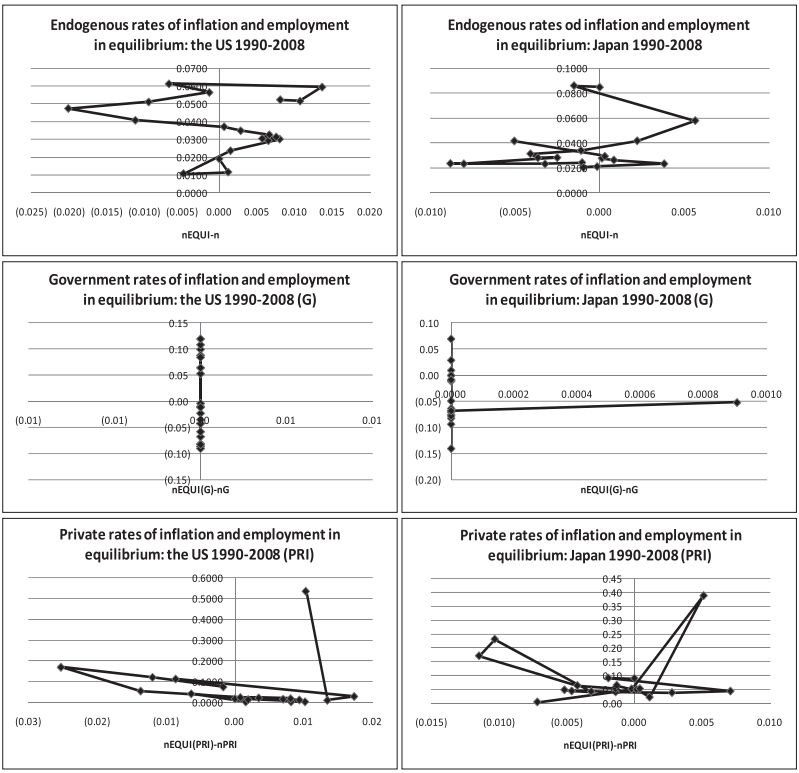
Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure A6 Relationship between endogenous rates of inflation and employment in equilibrium (6): Russia and Hungary 1990–2008



Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

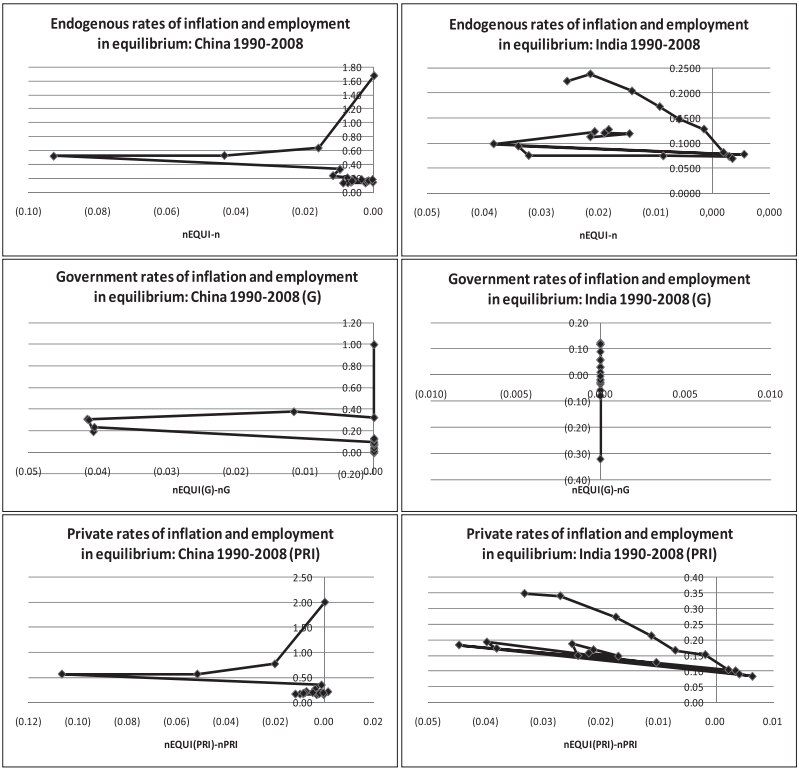
Figure A7 Relationship between endogenous rates of inflation and employment in equilibrium (7): 31 other country area and Singapore 1990–2008



Note: An exception of convergence is Japan, where a serious problem is that $i = I / Y$ approaches zero in equilibrium, due to crowing out by huge deficit by year and over years.

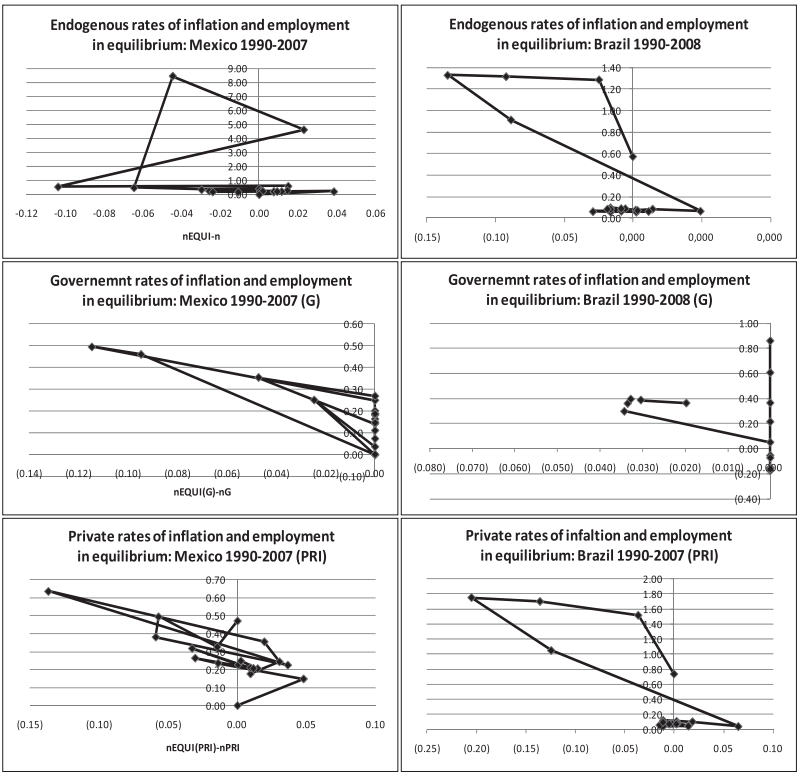
Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure A8 Relationship between endogenous rates of inflation and employment in equilibrium (8): the US and Japan 1990–2008



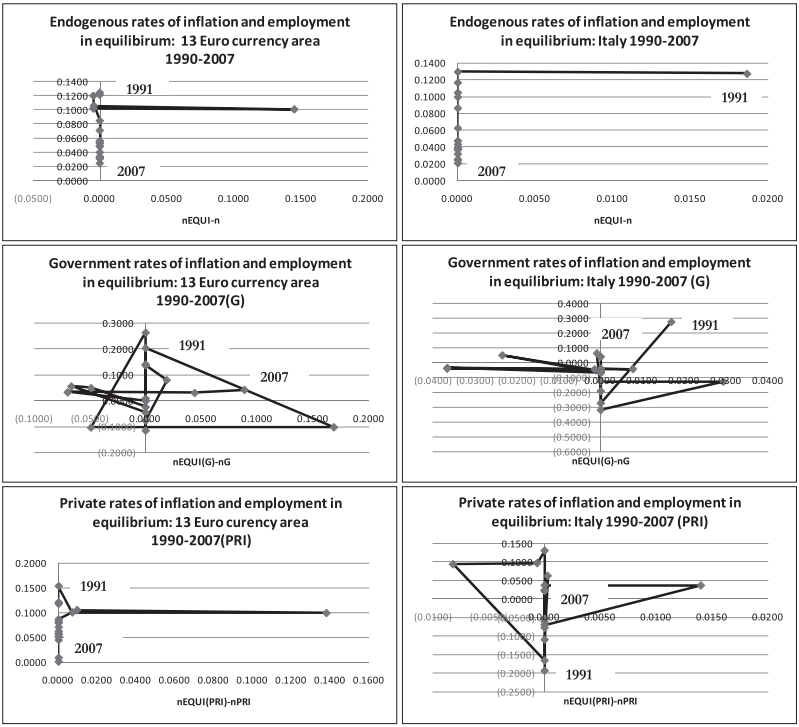
Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure A9 Relationship between endogenous rates of inflation and employment in equilibrium (9): China and India 1990–2008



Data source: KEWT 4.10 by sector, 1990–2008, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

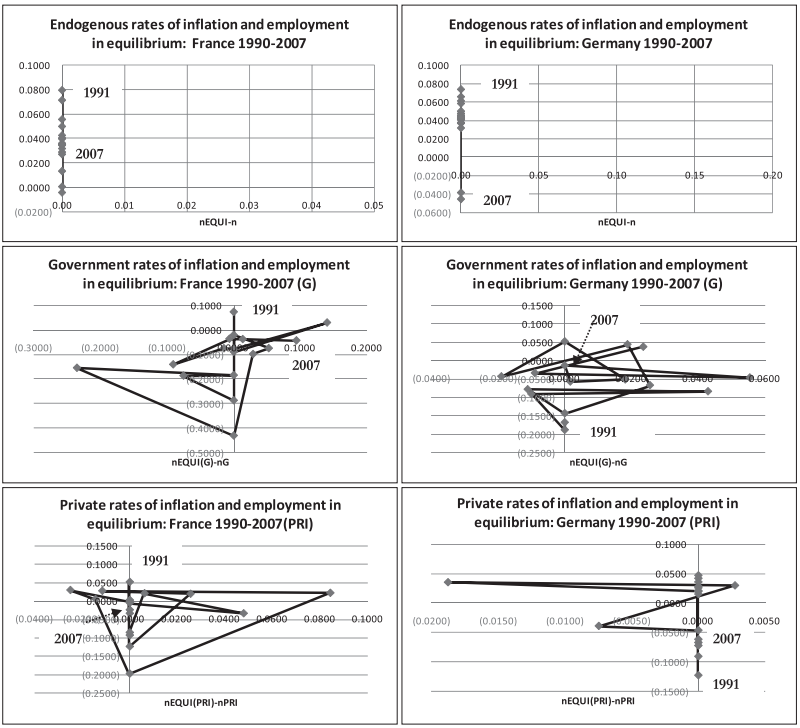
Figure A10 Relationship between endogenous rates of inflation and employment in equilibrium (10): Mexico and Brazil 1990–2008



Note: An exception of convergence is Japan, where a serious problem is that $i = I / Y$ approaches zero in equilibrium, due to huge deficit over years.

Data source: KEWT 3.09 of fifty-eight countries by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

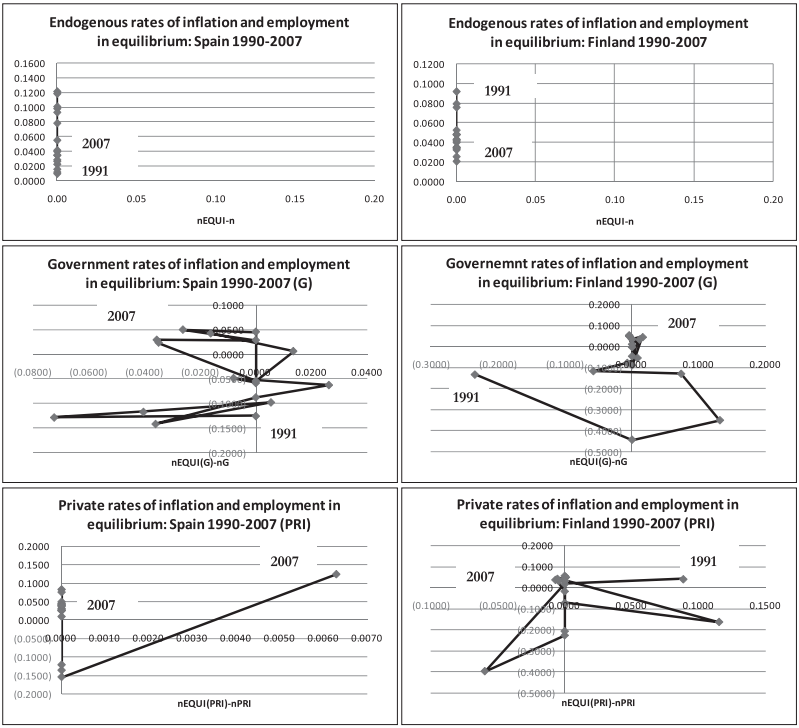
Figure B1 Relationship between endogenous rates of inflation and employment in equilibrium (1): Euro currency area and Italy 1990–2007



Note: No circulation of an endogenous inflation rate over years in Japan, due to unrecoverable deflation of the government sector. Nevertheless, even in Japan, the ratio of money supply to output stays at a certain narrow range, which is inevitable and proves that money supply M2 is neutral to real assets.

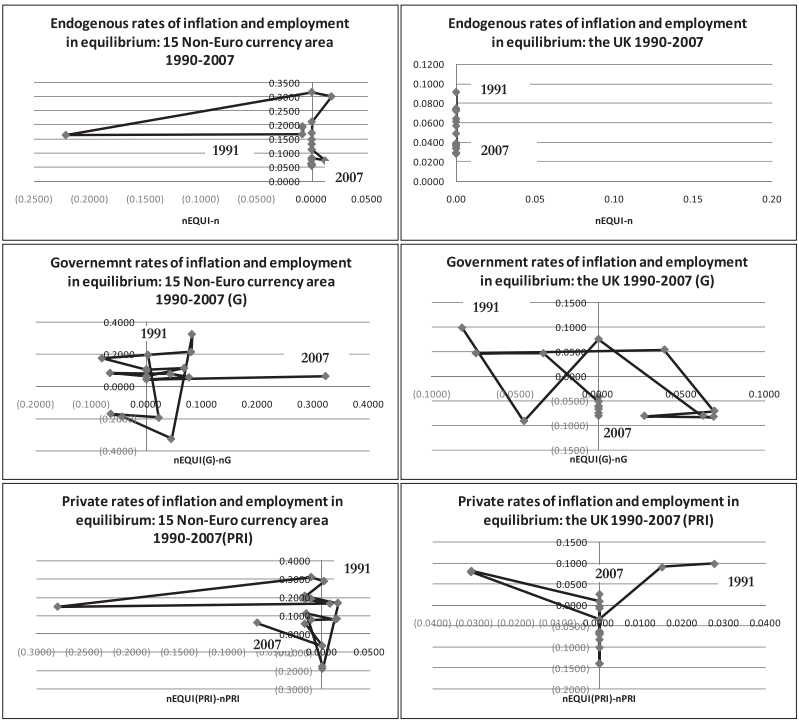
Data source: KEWT 3.09 of fifty-eight countries by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B2 Relationship between endogenous rates of inflation and employment in equilibrium (2): France and Germany 1990–2007



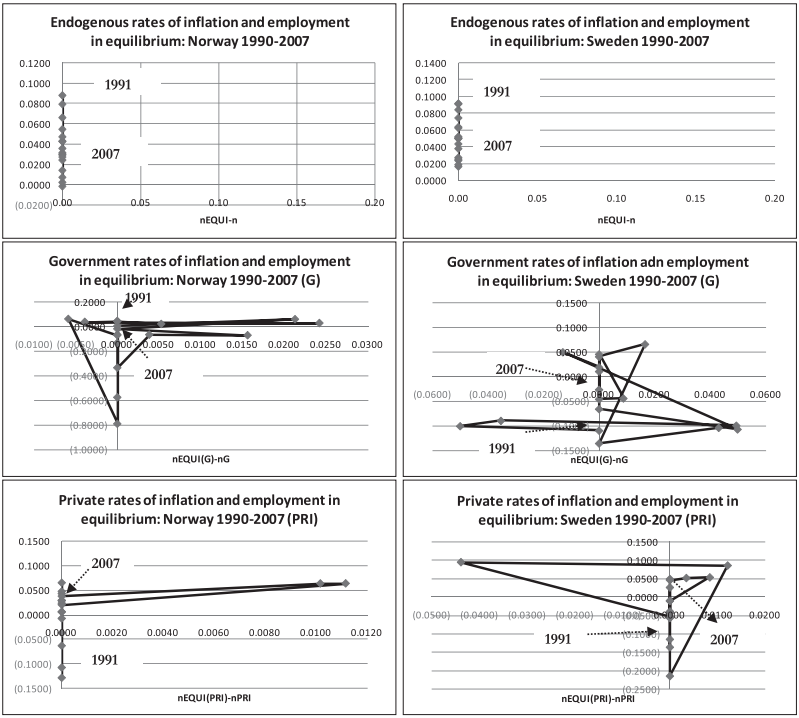
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B3 Relationship between endogenous rates of inflation and employment in equilibrium (3): Spain and Finland 1990–2007



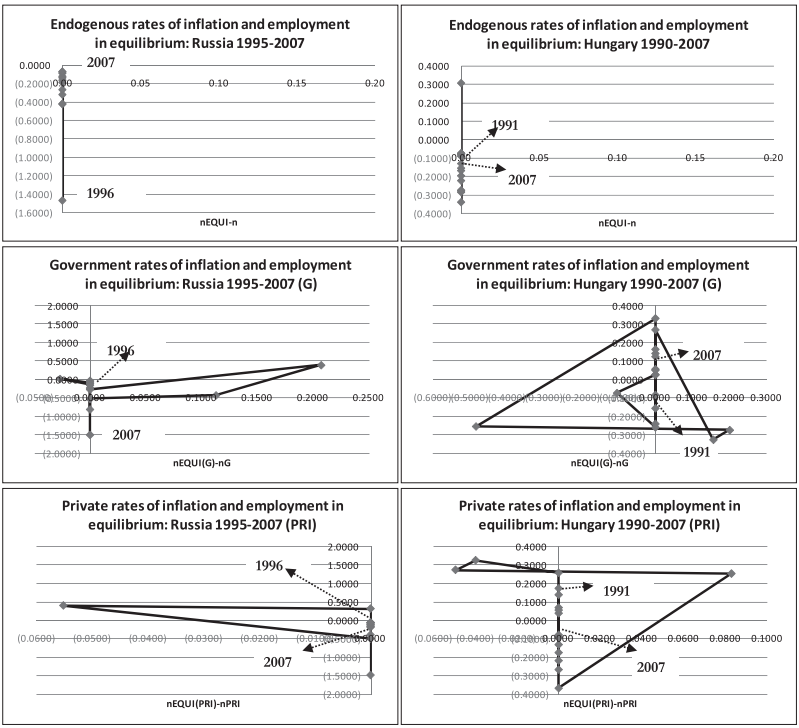
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B4 Relationship between endogenous rates of inflation and employment in equilibrium (1): Non-Euro currency area and the UK 1990–2007



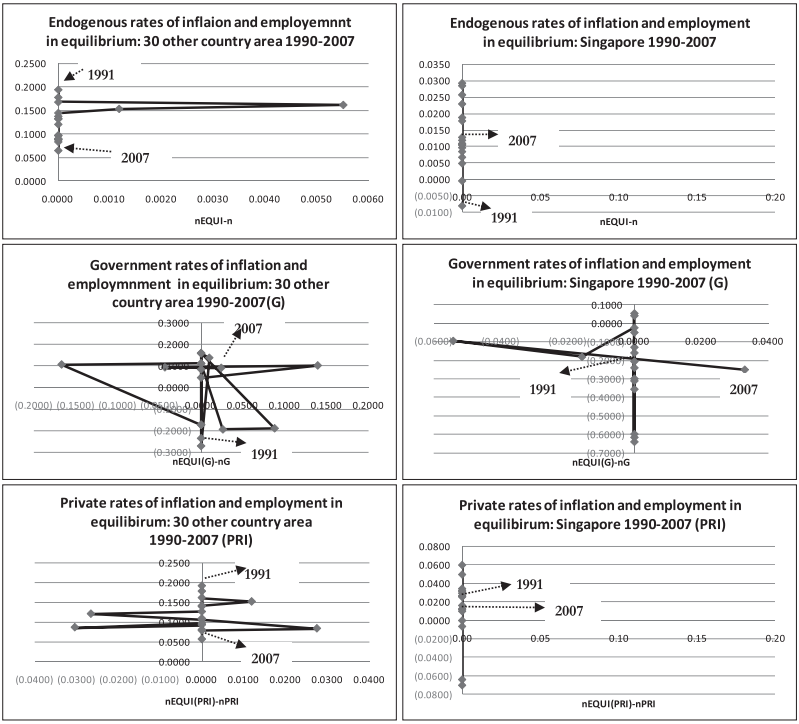
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B5 Relationship between endogenous rates of inflation and employment in equilibrium (2): Norway and Sweden 1990–2007



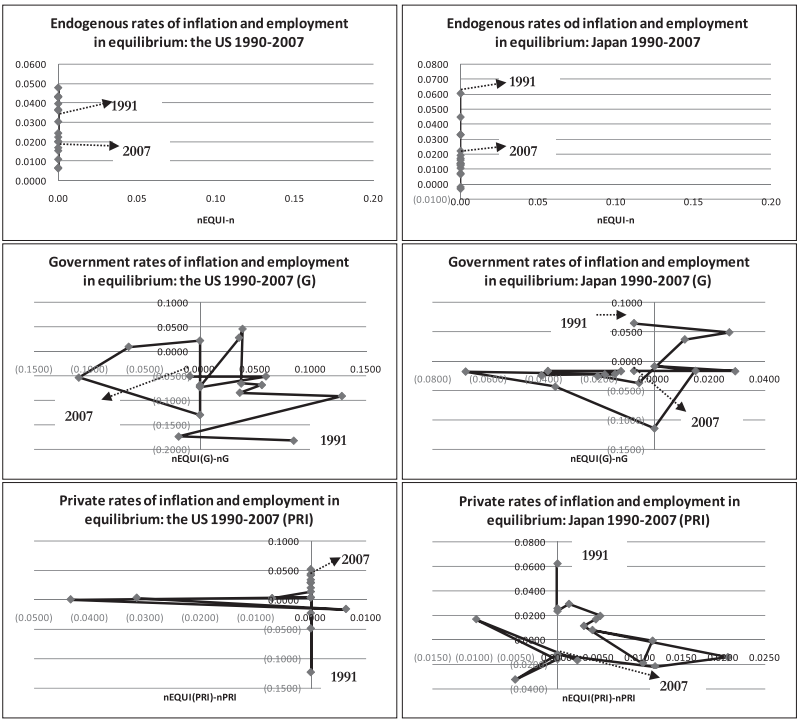
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B6 Relationship between endogenous rates of inflation and employment in equilibrium (3): Russia and Hungary 1990–2007



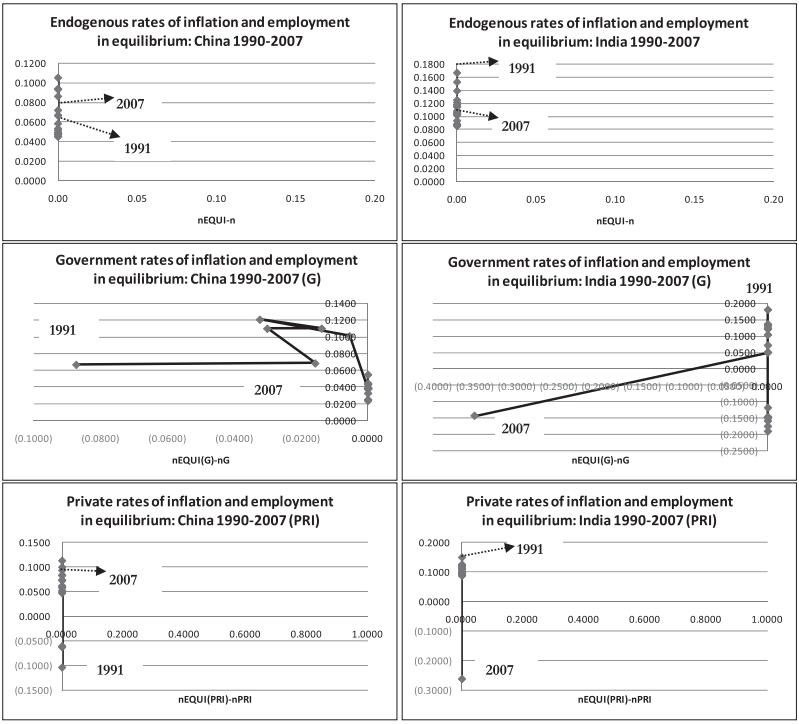
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B7 Relationship between endogenous rates of inflation and employment in equilibrium (1): 30 other country area and Singapore 1990–2007



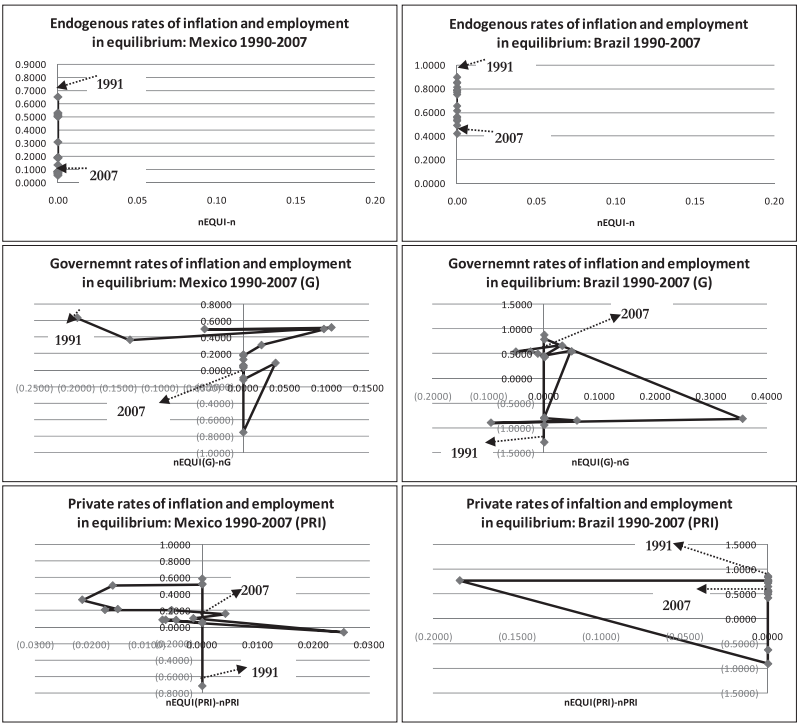
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B8 Relationship between endogenous rates of inflation and employment in equilibrium (2): the US and Japan 1990–2007



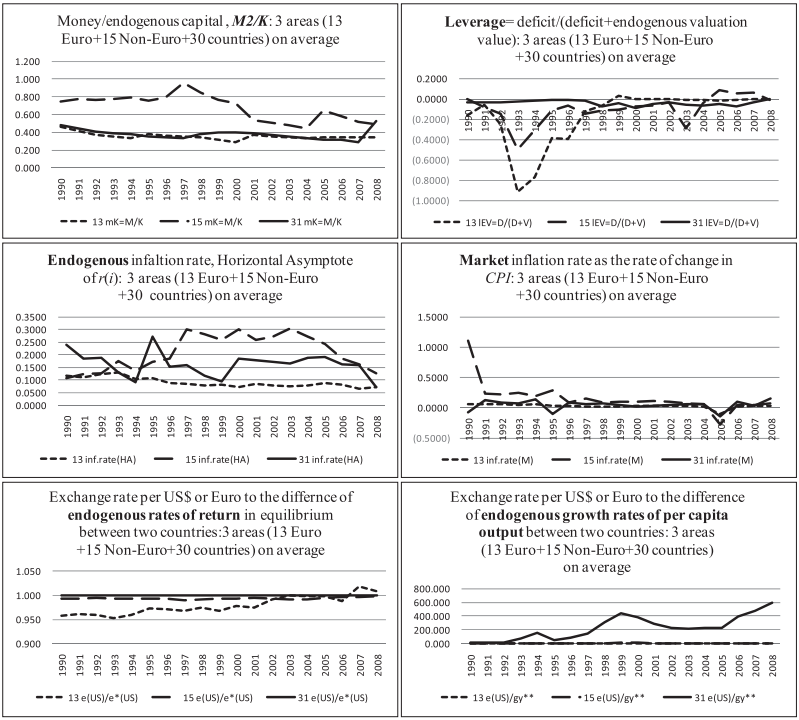
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B9 Relationship between endogenous rates of inflation and employment in equilibrium (3): China and India 1990–2007



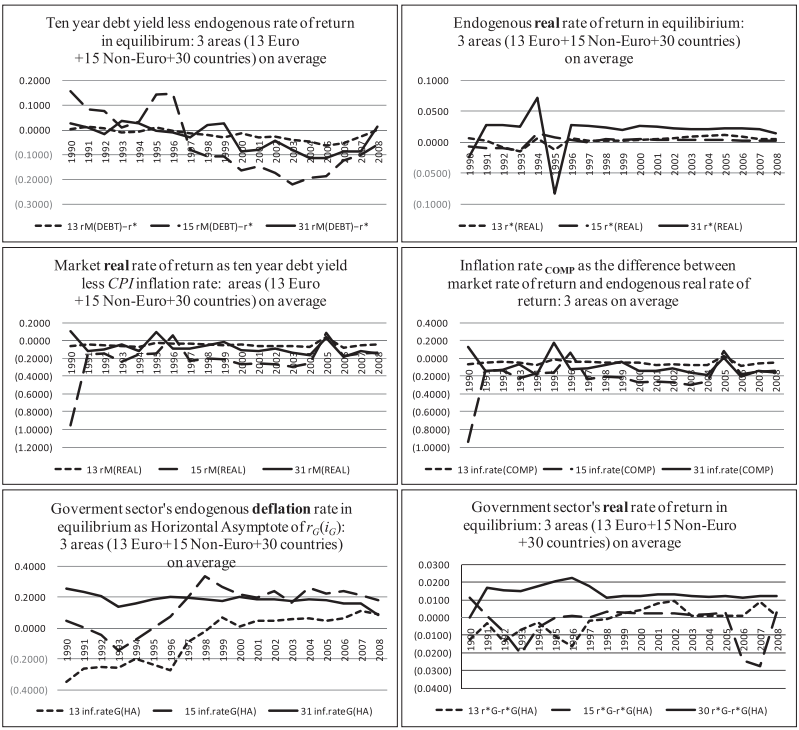
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure B10 Relationship between endogenous rates of inflation and employment in equilibrium (4): Mexico and Brazil 1990–2007



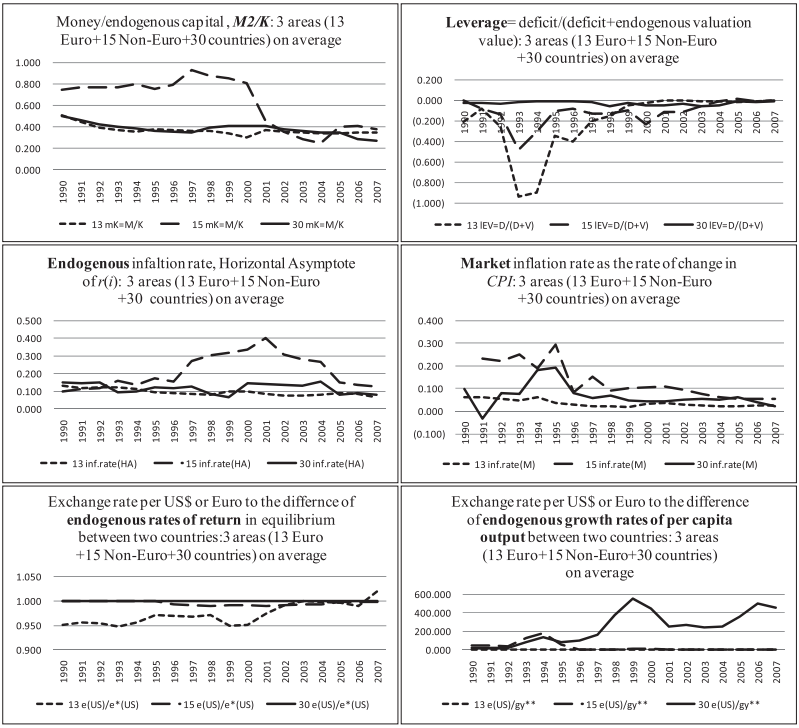
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure NA1 (1990–2008) Neutrality of the financial/market assets to the real assets by sub-area



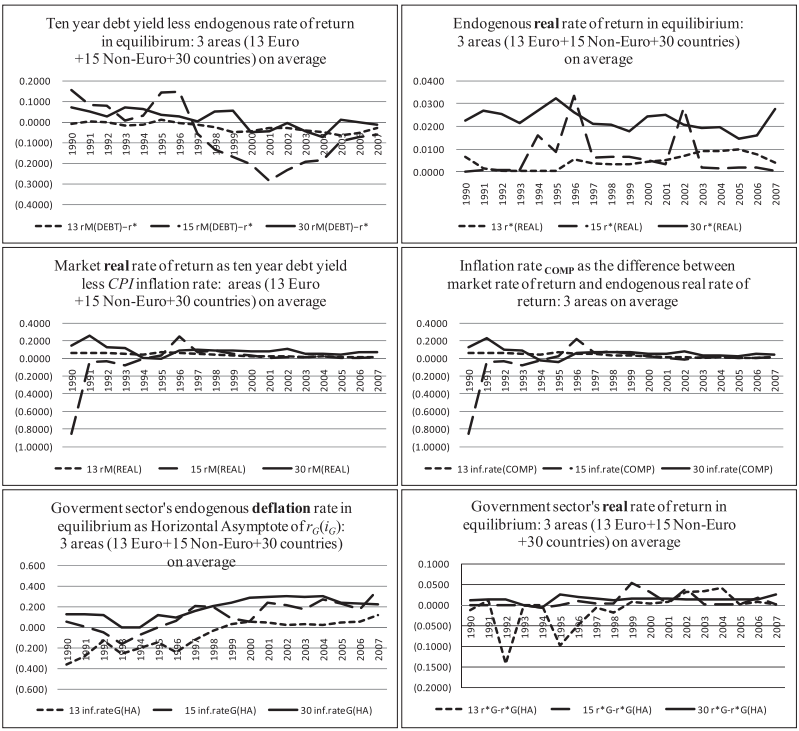
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure NA2 (1990–2008) Neutrality of the financial/market assets to the real assets by sub-area



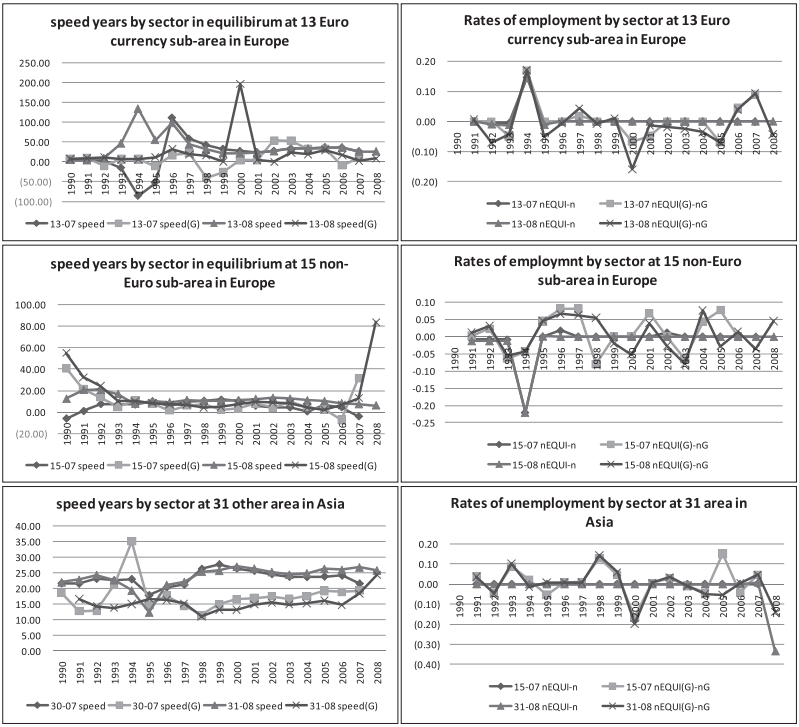
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure NB1 (1990–2007) Neutrality of the financial/market assets to the real assets by sub-area



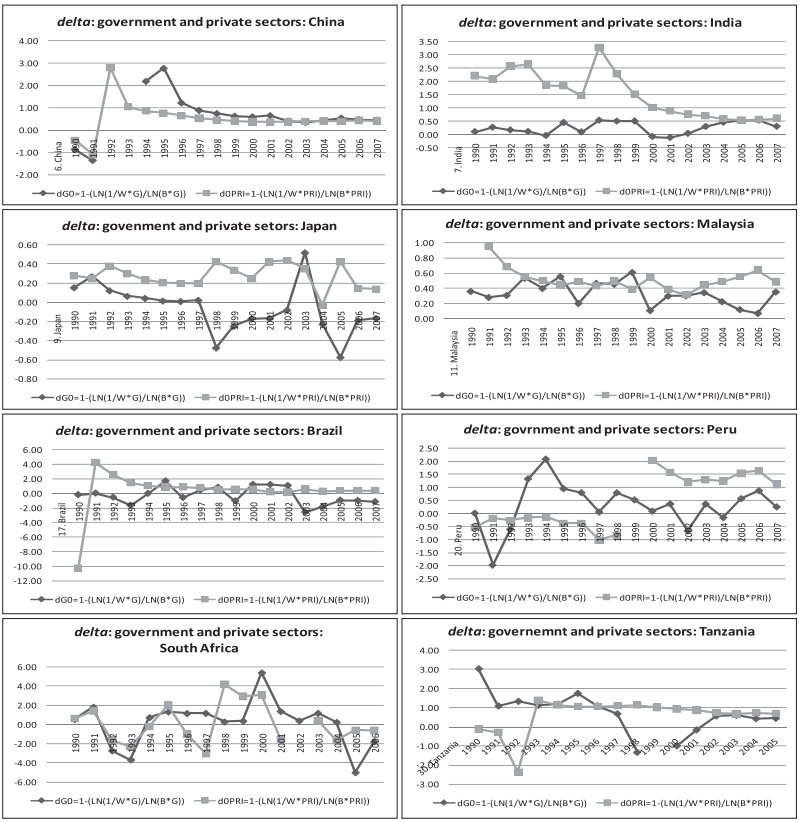
Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure NB2 (1990–2007) Neutrality of the financial/market assets to the real assets by sub-area



Data source: KEWT 3.09 and 4.10 by sector, 1990–2007/8, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure T1 Speed years and rate of unemployment, by sub-area



Note: The government and private sectors cooperate rigorously. Some countries lead their economies with private activities while others lead their economies with government activities, each influenced by the level of deficit.

Data source: KEWT 3.09 by sector, 1990–2007, whose ten original data come from *International Financial Statistics Yearbook*, IMF.

Figure T2 Trends of government $delta_0$ and private $delta_0$, by country

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