

มหาวิทยาลัยเชียงใหม่  
Chiang Mai University

ภาคผนวก

## ภาคผนวก ก

### การสร้างแบบจำลอง real interest differential ของ Frankel (1979)

Frankel (1979) ได้สร้างแบบจำลองในการศึกษาปัจจัยที่มีอิทธิพลต่อการกำหนดอัตราแลกเปลี่ยนเงินตราต่างประเทศ โดยผสมผสานข้อสมมติ sticky prices ของสำนัก Keynesian กับข้อสมมติ perfectly flexible prices ของสำนัก Chicago

ข้อสมมติของแบบจำลอง

- 1) เป็นไปตามแนวคิด uncovered interest rate parity (UIRP)
- 2) เป็นไปตามทฤษฎีค่าเสมอภาคของอำนาจซื้อ (PPP)
- 3) เป็นไปตามข้อสมมติการคาดการณ์อย่างสมเหตุสมผล (rational expectations หรือ perfect foresight)
- 4) การปรับตัวอย่างรวดเร็วของตลาดทุน (capital market) มากกว่าตลาดสินค้า (goods market) โดยเปรียบเทียบ
- 5) การเคลื่อนย้ายเงินทุนระหว่างประเทศเป็นไปได้อย่างเสรี (perfect capital mobility)
- 6) expected rate of depreciation เป็นฟังก์ชันของ  $(s - \bar{s})$  และ  $(\pi - \pi^*)$
- 7) perfect capital substitutability
- 8) ไม่มีต้นทุนการทำธุรกรรม (transaction costs)
- 9) ในระยะสั้นราคามีลักษณะ sticky คือราคาปรับตัวได้ช้าหรือคงที่
- 10) ในระยะยาวราคามีลักษณะ flexible คือราคาปรับตัวได้อย่างเสรี
- 11) อุปสงค์ของเงิน (money demand) ของแต่ละประเทศขึ้นอยู่กับอัตราดอกเบี้ยและรายได้ประชาชาติที่แท้จริงซึ่งมีเสถียรภาพ (stable) และมีลักษณะคล้ายกัน (identical) สามารถนำมาเปรียบเทียบกันได้

การสร้างแบบจำลองเริ่มต้นด้วยแนวคิด uncovered interest rate parity (UIRP) โดยมีรูปแบบดังนี้

$$d = (i - i^*) \quad (1)$$

โดยที่

$d$  = expected rate of depreciation

$i, i^*$  = อัตราดอกเบี้ยในประเทศและต่างประเทศตามลำดับ

และจากข้อสมมติ expected rate of depreciation เป็นฟังก์ชันของ  $(s - \bar{s})$  และ  $(\pi - \pi^*)$  แสดงในรูปสมการคือ

$$d = -\theta(s - \bar{s}) + (\pi - \pi^*) \quad (2)$$

โดยที่

$s, \bar{s}$  = ค่า logarithms ของอัตราแลกเปลี่ยนทันที (spot rate) และอัตราแลกเปลี่ยนดุลยภาพ (equilibrium rate)

$\pi, \pi^*$  = อัตราเงินเฟ้อในระยะยาวที่คาดการณ์ในประเทศและต่างประเทศตามลำดับ

$\theta$  = ค่าพารามิเตอร์

จาก (1) และ (2) จะได้

$$s - \bar{s} = -\frac{1}{\theta} [(i - \pi) - (i^* - \pi^*)] \quad (3)$$

ตัวแปรในวงเล็บแสดงถึงผลต่างของอัตราดอกเบี้ยที่แท้จริง (real interest differential) ระหว่างประเทศ ในระยะยาว  $s = \bar{s}$  นั่นคือ  $(i - i^*) = (\pi - \pi^*)$  จาก relative PPP ในระยะยาว เท่ากับ UIRP ในระยะยาว โดยที่  $i, i^*$  คืออัตราดอกเบี้ยระยะสั้นในระยะยาว

จากข้อสมมติในระยะสั้นราคามีลักษณะ sticky ดังนั้น PPP จะเกิดขึ้นในระยะยาว

$$\bar{s} = \bar{p} - \bar{p}^* \quad (4)$$

โดยที่

$\bar{p}, \bar{p}^*$  = ระดับราคาสินค้าทั่วไปในระยะยาวในประเทศและต่างประเทศตามลำดับ

ถ้าให้อุปสงค์ของเงิน (money demand) ของแต่ละประเทศขึ้นอยู่กับอัตราดอกเบี้ยและรายได้ประชาชาติที่แท้จริงและให้ปริมาณเงิน (money supply) เป็นตัวแปรภายนอกจะได้ดุลยภาพในตลาดเงินดังนี้

ดุลยภาพในตลาดเงินในประเทศ

$$m = p + \phi y - \lambda i \quad (5)$$

ดุลยภาพในตลาดเงินต่างประเทศ

$$m^* = p^* + \phi y^* - \lambda i^* \quad (6)$$

จาก (5) และ (6) จะได้

$$m - m^* = p - p^* + \phi(y - y^*) - \lambda(i - i^*) \quad (7)$$

โดยที่

$m, m^*$  = ค่า logarithms ของปริมาณเงินในประเทศและต่างประเทศตามลำดับ

$p, p^*$  = ค่า logarithms ของระดับราคาในประเทศและต่างประเทศตามลำดับ

$y, y^*$  = ค่า logarithms ของระดับรายได้ประชาชาติที่แท้จริงในประเทศและต่างประเทศตามลำดับ

$\lambda, \phi$  = ค่าพารามิเตอร์

จาก (4) จะได้

$$\bar{s} = (\bar{m} - \bar{m}^*) - \phi(\bar{y} - \bar{y}^*) + \lambda(\bar{i} - \bar{i}^*) \quad (8)$$

โดยที่ "-" แสดงค่าดุลยภาพในระยะยาว

สมการ (8) แสดงถึง flexible price monetary model และจาก  $(\bar{i} - \bar{i}^*) = (\pi - \pi^*)$  จะได้

$$\bar{s} = (\bar{m} - \bar{m}^*) - \phi(\bar{y} - \bar{y}^*) + \lambda(\pi - \pi^*) \quad (9)$$

แทนค่า (9) ใน (3) และสมมติว่าปริมาณเงินและรายได้ประชาชาติที่แท้จริงที่ current equilibrium level ถูกกำหนดโดย current actual level ดังนั้นจะได้

$$s = (m - m^*) - \phi(y - y^*) - \frac{1}{\theta}(i - i^*) + \left(\frac{1}{\theta} + \lambda\right)(\pi - \pi^*) \quad (10)$$

สมการ (10) แสดงถึงสมการการกำหนดอัตราแลกเปลี่ยนทันทีในรูปแบบ real interest differential

## ภาคผนวก ข

## 1) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐฯ

## Ordinary Least Square Estimates

|                        |          |                                 |            |
|------------------------|----------|---------------------------------|------------|
| Dependent Variable     | $s$      | Log-Likelihood                  | 442.27     |
| Number of Observations | 111      | Restricted (Slopes=0) Log-L     | 421.56     |
| R-Squared              | .31217   | Chi-Squared (4)                 | 41.426     |
| Adjusted R-Squared     | .28621   | Significance Level              | .53809E-10 |
| F-Statistic (4,106)    | 12.02696 | Durbin-Watson Statistic         | .22891     |
| Significance of F-Test | .00000   | Estimated Autocorrelation (Rho) | .88554     |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | 1.38559      | .6735E-02  | 205.717 | (.00000)  | 1.0000     | .00000       |
| $(m - m^*)$     | -.298510E-01 | .1244E-.01 | -2.399  | (.01734)  | -.64061    | .96214E-01   |
| $(y - y^*)$     | -.266210E-02 | .1144E-.01 | -.0233  | (.80188)  | -.16000    | .96655E-01   |
| $(i - i^*)$     | -.251487E-03 | .2524E-03  | -.996   | (.32286)  | 4.1513     | 2.3537       |
| $(\pi - \pi^*)$ | -.555119E-02 | .8952E-02  | .620    | (.54390)  | .52573E-01 | .89315E01    |
| Sigma           | .460405E-02  | .3090E-03  | 14.900  | (.00000)  |            |              |

## Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .9009123    | 1.0000000   |             |                 |
| $(i - i^*)$     | .4909547    | .5908773    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | .8026415    | .7396665    | .5913098    | 1.0000000       |

ที่มา : จากการคำนวณ

2) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐฯหลังจากแก้ปัญหา multicollinearity โดยการทำ first-differences ตัวแปรในแบบจำลอง

Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 521.76 |
| Number of Observations | 110     | Restricted (Slopes=0) Log-L     | 521.07 |
| R-Squared              | .01350  | Chi-Squared (4)                 | 1.3830 |
| Adjusted R-Squared     | -.02408 | Significance Level              | .84714 |
| F-Statistic (4,105)    | .35935  | Durbin-Watson Statistic         | 1.4997 |
| Significance of F-Test | .83831  | Estimated Autocorrelation (Rho) | .25013 |

| Variable        | Coefficient   | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|---------------|------------|---------|-----------|------------|--------------|
| ONE             | -.841400E-04  | .2100E-03  | -.401   | (.69107)  | 1.0000     | .00000       |
| $(m - m^*)$     | -.125006E-01  | .1184E-01  | -1.056  | (.29388)  | .35640E-02 | .18622E-01   |
| $(y - y^*)$     | .620096E-02   | .7701E-02  | .805    | (.42793)  | .23601E-02 | .29134E-01   |
| $(i - i^*)$     | -.0129166E-03 | .3497E-03  | -.369   | (.71207)  | .18909E-01 | .60400       |
| $(\pi - \pi^*)$ | .181021E-02   | .8580E-02  | .211    | (.81571)  | .22415E-02 | .24308E-01   |
| Sigma           | .215604E-02   | .1454E-03  | 14.832  | (.00000)  |            |              |

Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .3410813    | 1.0000000   |             |                 |
| $(i - i^*)$     | .0088326    | .1819334    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | .0924140    | .0831338    | -.0758905   | 1.0000000       |

ที่มา : จากถาวรคำนวณ

3) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐหลังจากแก้ปัญหา multicollinearity โดยการทำ second-differences ตัวแปรในแบบจำลอง

Ordinary Least Square Estimates

|                        |         |                                 |         |
|------------------------|---------|---------------------------------|---------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 496.04  |
| Number of Observations | 109     | Restricted (Slopes=0) Log-L     | 492.80  |
| R-Squared              | .05860  | Chi-Squared (4)                 | 6.4689  |
| Adjusted R-Squared     | .02240  | Significance Level              | .16676  |
| F-Statistic (4,104)    | 1.61853 | Durbin-Watson Statistic         | 2.6650  |
| Significance of F-Test | .17383  | Estimated Autocorrelation (Rho) | -.33248 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .260063E-05  | .2504E-03  | .010    | (.93933)  | 1.0000      | .00000       |
| $(m - m^*)$     | -.149407E-01 | .9867E-02  | -1.514  | (.12885)  | -.20940E-03 | .25707E-01   |
| $(y - y^*)$     | .114741E-01  | .6703E-02  | 1.712   | (.08602)  | -.30632E-04 | .38767E-01   |
| $(i - i^*)$     | .324886E-03  | .3285E-03  | .989    | (.32666)  | .82569E-03  | .78597       |
| $(\pi - \pi^*)$ | .133264E-02  | .7323E-02  | .182    | (.83390)  | .00000      | .34683E-01   |
| Sigma           | .261414E-02  | .1771E-03  | 14.765  | (.00000)  |             |              |

Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .1148797    | 1.0000000   |             |                 |
| $(i - i^*)$     | .0646100    | .2012563    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | -.0332751   | .0913523    | -.0756659   | 1.0000000       |

ที่มา: จากการคำนวณ



4) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐฯหลังจากแก้ปัญหา  
negative autocorrelation

Ordinary Least Square Estimates

|                        |          |                                 |         |
|------------------------|----------|---------------------------------|---------|
| Dependent Variable     | <i>s</i> | Log-Likelihood                  | 496.04  |
| Number of Observations | 109      | Restricted (Slopes=0) Log-L     | 492.80  |
| R-Squared              | .05860   | Chi-Squared (4)                 | 6.4689  |
| Adjusted R-Squared     | .02240   | Significance Level              | .16676  |
| F-Statistic (4,104)    | 1.61853  | Durbin-Watson Statistic         | 2.6650  |
| Significance of F-Test | .17383   | Estimated Autocorrelation (Rho) | -.33248 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .260063E-05  | .2504E-03  | .010    | (.93933)  | 1.0000      | .00000       |
| $(m - m^*)$     | -.149407E-01 | .9867E-02  | -1.514  | (.12885)  | -.20940E-03 | .25707E-01   |
| $(y - y^*)$     | .114741E-01  | .6703E-02  | 1.712   | (.08602)  | -.30632E-04 | .38767E-01   |
| $(i - i^*)$     | .324886E-03  | .3285E-03  | .989    | (.32666)  | .82569E-03  | .78597       |
| $(\pi - \pi^*)$ | .133264E-02  | .7323E-02  | .182    | (.83390)  | .00000      | .34683E-01   |
| Sigma           | .261414E-02  | .1771E-03  | 14.765  | (.00000)  |             |              |

AR(1) Disturbance

|                        |           |  |           |
|------------------------|-----------|--|-----------|
| Initial Value of Rho   | = -.33248 | Final Value of Rho                       | = -.34457 |
| Maximum Iterations     | = 20      | Durbin-Watson for Transformed Residuals  | = 2.15116 |
| Method = Prais-Winsten |           | Autocorrelation of Transformed Residuals | = -.0756  |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .330676E-05  | .1756E-03  | .019    | (.98498)  | 1.0000      | .00000       |
| $(m - m^*)$     | -.939377E-02 | .1037E-01  | -.906   | (.36515)  | -.20940E-03 | .25707E-01   |
| $(y - y^*)$     | .895577E-02  | .7064E-02  | 1.268   | (.20485)  | -.30632E-04 | .38767E-01   |
| $(i - i^*)$     | .251273E-03  | .3426E-03  | .734    | (.46325)  | .82569E-03  | .78597       |
| $(\pi - \pi^*)$ | .891275E-04  | .7804E-02  | .011    | (.99089)  | .13793E-18  | .34683E-01   |
| Rho             | -.345118     | .9031E-01  | -3.821  | (.00013)  |             |              |

ที่มา : จากกรคำนวณ

## ภาคผนวก ค

## 1) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อเยนญี่ปุ่นหนึ่งร้อยเยน

## Ordinary Least Square Estimates

|                        |          |                                 |            |
|------------------------|----------|---------------------------------|------------|
| Dependent Variable     | $s$      | Log-Likelihood                  | 248.40     |
| Number of Observations | 126      | Restricted (Slopes=0) Log-L     | 175.20     |
| R-Squared              | .68733   | Chi-Squared (4)                 | 146.39     |
| Adjusted R-Squared     | .67699   | Significance Level              | .32173E-13 |
| F-Statistic (4,121)    | 66.49764 | Durbin-Watson Statistic         | .23404     |
| Significance of F-Test | .00000   | Estimated Autocorrelation (Rho) | .88298     |

| Variable        | Coefficient | Std. Error | T-ratio | (Sig.Lvl) | Mean of X | Std.Dev.of X |
|-----------------|-------------|------------|---------|-----------|-----------|--------------|
| ONE             | 2.15035     | .2475      | 8.698   | (.00000)  | 1.0000    | .00000       |
| $(m - m^*)$     | .294902     | .9113E-01  | 3.236   | (.00172)  | -2.7456   | .10316       |
| $(y - y^*)$     | .260020     | .7783E-01  | 3.341   | (.00126)  | -1.0126   | .11685       |
| $(i - i^*)$     | .648366E-02 | .2131E-02  | 3.043   | (.00301)  | 8.0981    | 1.8295       |
| $(\pi - \pi^*)$ | -.185184    | .4487E-01  | -4.127  | (.00011)  | .25890    | .11281       |
| Sigma           | .343728     | .2165E-02  | 15.875  | (.00000)  |           |              |

## Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .9385970    | 1.0000000   |             |                 |
| $(i - i^*)$     | .2412437    | .1682692    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | .6769496    | .6325741    | .5619574    | 1.0000000       |

ที่มา : จากการคำนวณ

2) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อเยนญี่ปุ่นหนึ่งร้อยเยนหลังจากแก้ปัญหา multicollinearity โดยการทำให้ first-differences ตัวแปรในรูปแบบจำลอง

Ordinary Least Square Estimates

|                        |          |                                 |        |
|------------------------|----------|---------------------------------|--------|
| Dependent Variable     | <i>s</i> | Log-Likelihood                  | 385.46 |
| Number of Observations | 125      | Restricted (Slopes=0) Log-L     | 384.42 |
| R-Squared              | .01257   | Chi-Squared (4)                 | 1.4826 |
| Adjusted R-Squared     | -.02034  | Significance Level              | .82972 |
| F-Statistic (4,120)    | .38192   | Durbin-Watson Statistic         | 1.5342 |
| Significance of F-Test | .82287   | Estimated Autocorrelation (Rho) | .23288 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | .10977E-02   | .1022E-02  | 1.074   | (.28493)  | 1.0000     | .00000       |
| $(m - m^*)$     | .330878E-01  | .3829E-01  | .864    | (.39352)  | .17961E-02 | .27035E-01   |
| $(y - y^*)$     | -.229354E-01 | .3678E-01  | -.624   | (.54153)  | .18876E-02 | .28400E-01   |
| $(i - i^*)$     | .113384E-03  | .1820E-02  | .062    | (.90609)  | .56000E-02 | .56524       |
| $(\pi - \pi^*)$ | -.305977E-01 | .4441E-01  | -.689   | (.49929)  | .29970E-02 | .23146E-01   |
| Sigma           | .113038E-01  | .7149E-03  | 15.811  | (.00000)  |            |              |

Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .1478428    | 1.0000000   |             |                 |
| $(i - i^*)$     | -.0983312   | .1127143    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | .0762899    | .1470500    | .0216474    | 1.0000000       |

ที่มา : จากการคำนวณ

3) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อเยนญี่ปุ่นหนึ่งร้อยเยนหลังจากแก้ปัญหา  
positive autocorrelation

Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 385.46 |
| Number of Observations | 125     | Restricted (Slopes=0) Log-L     | 384.42 |
| R-Squared              | .01257  | Chi-Squared (4)                 | 1.4826 |
| Adjusted R-Squared     | -.02034 | Significance Level              | .82972 |
| F-Statistic (4,120)    | .38192  | Durbin-Watson Statistic         | 1.5342 |
| Significance of F-Test | .82287  | Estimated Autocorrelation (Rho) | .23288 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | .10977E-02   | .1022E-02  | 1.074   | (.28493)  | 1.0000     | .00000       |
| $(m - m^*)$     | .330878E-01  | .3829E-01  | .864    | (.39352)  | .17961E-02 | .27035E-01   |
| $(y - y^*)$     | -.229354E-01 | .3678E-01  | -.624   | (.54153)  | .18876E-02 | .28400E-01   |
| $(i - i^*)$     | .113384E-03  | .1820E-02  | .062    | (.90609)  | .56000E-02 | .56524       |
| $(\pi - \pi^*)$ | -.305977E-01 | .4441E-01  | -.689   | (.49929)  | .29970E-02 | .23146E-01   |
| Sigma           | .113038E-01  | .7149E-03  | 15.811  | (.00000)  |            |              |

AR(1) Disturbance

|                        |          |  |           |
|------------------------|----------|--|-----------|
| Initial Value of Rho   | = .23288 | Final Value of Rho                       | = .24454  |
| Maximum Iterations     | = 20     | Durbin-Watson for Transformed Residuals  | = 2.04162 |
| Method = Prais-Winsten |          | Autocorrelation of Transformed Residuals | = -.0208  |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | .116929E-02  | .1306E-02  | .896    | (.37050)  | 1.0000     | .00000       |
| $(m - m^*)$     | .324555E-01  | .3303E-01  | .982    | (.32586)  | .17961E-02 | .27035E-01   |
| $(y - y^*)$     | -.216873E-01 | .3510E-01  | -.618   | (.53660)  | .18876E-02 | .28400E-01   |
| $(i - i^*)$     | -.959703E-03 | .1812E-02  | -.530   | (.59631)  | .56000E-02 | .56524       |
| $(\pi - \pi^*)$ | -.37819E-01  | .4163E-01  | -.908   | (.36366)  | .29970E-02 | .23146E-01   |
| Rho             | .245097      | .8706E-01  | 2.815   | (.00488)  |            |              |

ที่มา : จากการคำนวณ

## ภาคผนวก ง

## 1) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อมาร์กเยอรมัน

## Ordinary Least Square Estimates

|                        |          |                                 |            |
|------------------------|----------|---------------------------------|------------|
| Dependent Variable     | $s$      | Log-Likelihood                  | 286.60     |
| Number of Observations | 126      | Restricted (Slopes=0) Log-L     | 249.00     |
| R-Squared              | .44988   | Chi-Squared (4)                 | 75.203     |
| Adjusted R-Squared     | .43170   | Significance Level              | .32173E-13 |
| F-Statistic (4,121)    | 24.73833 | Durbin-Watson Statistic         | .21221     |
| Significance of F-Test | .00000   | Estimated Autocorrelation (Rho) | .89390     |

| Variable        | Coefficient | Std. Error | T-ratio | (Sig.Lvl) | Mean of X | Std.Dev.of X |
|-----------------|-------------|------------|---------|-----------|-----------|--------------|
| ONE             | 1.21739     | .2674E-01  | 45.527  | (.00000)  | 1.0000    | .00000       |
| $(m - m^*)$     | .631612E-01 | .7474E-01  | .845    | (.40444)  | -.39047   | .64758E-01   |
| $(y - y^*)$     | .157322     | .4297E-01  | 3.661   | (.00048)  | -.11571   | .11168       |
| $(i - i^*)$     | .259264E-02 | .1133E-02  | 2.289   | (.02261)  | 5.0795    | 2.31343      |
| $(\pi - \pi^*)$ | .821570E-02 | .2003E-01  | .410    | (.68448)  | .16730    | .13468       |
| Sigma           | .253826E-01 | .1599E-02  | 15.875  | (.00000)  |           |              |

## Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .8686388    | 1.0000000   |             |                 |
| $(i - i^*)$     | .1452236    | .0446578    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | .1191930    | -.0421803   | .4918197    | 1.0000000       |

ที่มา : จากการคำนวณ

2) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อมาร์กเยอรมันหลังจากแก้ปัญหา multicollinearity โดยการทำ first-differences ตัวแปรในแบบจำลอง

Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 392.28 |
| Number of Observations | 125     | Restricted (Slopes=0) Log-L     | 389.67 |
| R-Squared              | .04178  | Chi-Squared (4)                 | 5.2356 |
| Adjusted R-Squared     | .00984  | Significance Level              | .26397 |
| F-Statistic (4,120)    | 1.30794 | Durbin-Watson Statistic         | 1.5007 |
| Significance of F-Test | .27021  | Estimated Autocorrelation (Rho) | .24967 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | .10923E-03   | .9611E-03  | .114    | (.87551)  | 1.0000     | .00000       |
| $(m - m^*)$     | .662563E-01  | .5672E-01  | 1.168   | (.24355)  | .10438E-02 | .179896E-01  |
| $(y - y^*)$     | -.334961E-02 | .3440E-01  | -.097   | (.88522)  | .19572E-02 | .29535E-01   |
| $(i - i^*)$     | .265204E-02  | .1723E-02  | 1.539   | (.12212)  | .28800E-02 | .56637       |
| $(\pi - \pi^*)$ | .336340E-01  | .2548E-01  | 1.320   | (.18598)  | .16326E-02 | .38064E-01   |
| Sigma           | .107032E-01  | .6769E-03  | 15.811  | (.00000)  |            |              |

Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .2805673    | 1.0000000   |             |                 |
| $(i - i^*)$     | -.1013824   | .1006734    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | -.0714964   | .0819333    | .0564691    | 1.0000000       |

ที่มา : จากการคำนวณ

3) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อมาร์กเยอรมันหลังจากแก้ปัญหา multicollinearity โดยการทำ second-differences ตัวแปรในแบบจำลอง

Ordinary Least Square Estimates

|                        |         |                                 |         |
|------------------------|---------|---------------------------------|---------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 364.29  |
| Number of Observations | 124     | Restricted (Slopes=0) Log-L     | 361.56  |
| R-Squared              | .04390  | Chi-Squared (4)                 | 5.4670  |
| Adjusted R-Squared     | .01176  | Significance Level              | .24264  |
| F-Statistic (4,119)    | 1.36596 | Durbin-Watson Statistic         | 2.5371  |
| Significance of F-Test | .24895  | Estimated Autocorrelation (Rho) | -.26855 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | -.102221E-03 | .1175E-02  | -.087   | (.89139)  | 1.0000      | .00000       |
| $(m - m^*)$     | .493474E-01  | .4958E-01  | .995    | (.32316)  | -.26046E-03 | .24311E-01   |
| $(y - y^*)$     | .460436E-02  | .2908E-01  | .158    | (.84847)  | -.37440E-03 | .41739E-01   |
| $(i - i^*)$     | .858213E-03  | .1698E-02  | .505    | (.62021)  | -.50806E-02 | .70644       |
| $(\pi - \pi^*)$ | .464233E-01  | .2254E-01  | 2.060   | (.03930)  | .00000      | .54099E-01   |
| Sigma           | .130806E-01  | .8306E-03  | 15.748  | (.00000)  |             |              |

Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .0776810    | 1.0000000   |             |                 |
| $(i - i^*)$     | -.0166482   | .1634519    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | -.1765596   | .1506957    | .1045056    | 1.0000000       |

ที่มา : จากการคำนวณ

#### 4) ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อมาร์กเยอรมันหลังจากแก้ปัญหา negative autocorrelation

##### Ordinary Least Square Estimates

|                        |         |                                 |         |
|------------------------|---------|---------------------------------|---------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 364.29  |
| Number of Observations | 124     | Restricted (Slopes=0) Log-L     | 361.56  |
| R-Squared              | .04390  | Chi-Squared (4)                 | 5.4670  |
| Adjusted R-Squared     | .01176  | Significance Level              | .24264  |
| F-Statistic (4,119)    | 1.36596 | Durbin-Watson Statistic         | 2.5371  |
| Significance of F-Test | .24895  | Estimated Autocorrelation (Rho) | -.26855 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | -.102221E-03 | .1175E-02  | -.087   | (.89139)  | 1.0000      | .00000       |
| $(m - m^*)$     | .493474E-01  | .4958E-01  | .995    | (.32316)  | -.26046E-03 | .24311E-01   |
| $(y - y^*)$     | .460436E-02  | .2908E-01  | .158    | (.84847)  | -.37440E-03 | .41739E-01   |
| $(i - i^*)$     | .858213E-03  | .1698E-02  | .505    | (.62021)  | -.50806E-02 | .70644       |
| $(\pi - \pi^*)$ | .464233E-01  | .2254E-01  | 2.060   | (.03930)  | .00000      | .54099E-01   |
| Sigma           | .130806E-01  | .8306E-03  | 15.748  | (.00000)  |             |              |

##### AR(1) Disturbance

|                        |           |  |           |
|------------------------|-----------|--|-----------|
| Initial Value of Rho   | = -.26855 | Final Value of Rho                       | = -.28707 |
| Maximum Iterations     | = 20      | Durbin-Watson for Transformed Residuals  | = 2.19483 |
| Method = Prais-Winsten |           | Autocorrelation of Transformed Residuals | = -.0974  |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | -.764375E-04 | .8775E-03  | -.087   | (.93059)  | 1.0000      | .00000       |
| $(m - m^*)$     | .500171E-01  | .5326E-01  | .939    | (.34763)  | -.26046E-03 | .24311E-01   |
| $(y - y^*)$     | -.707422E-02 | .3158E-01  | -.224   | (.82275)  | -.37440E-03 | .41739E-01   |
| $(i - i^*)$     | .116756E-02  | .1175E-02  | .658    | (.51056)  | -.50806E-02 | .70644       |
| $(\pi - \pi^*)$ | .306266E-01  | .2388E-01  | 1.283   | (.19958)  | -.57810E-19 | .54099E-01   |
| Rho             | -.287187     | .8637E-01  | -3.325  | (.00088)  |             |              |

ที่มา : จากการคำนวณ



## ภาคผนวก จ

## ผลการศึกษาอัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์หลังจากแก้ปัญหา positive autocorrelation

## Ordinary Least Square Estimates

|                        |          |                                 |            |
|------------------------|----------|---------------------------------|------------|
| Dependent Variable     | $s$      | Log-Likelihood                  | 239.28     |
| Number of Observations | 126      | Restricted (Slopes=0) Log-L     | 180.91     |
| R-Squared              | .60438   | Chi-Squared (4)                 | 116.74     |
| Adjusted R-Squared     | .59130   | Significance Level              | .32173E-13 |
| F-Statistic (4,121)    | 46.21171 | Durbin-Watson Statistic         | .66471     |
| Significance of F-Test | .00000   | Estimated Autocorrelation (Rho) | .66764     |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-----------|--------------|
| ONE             | .152171      | .8520E-01  | 1.786   | (.07297)  | 1.0000    | .00000       |
| $(m - m^*)$     | .925639      | .7314E-01  | 12.656  | (.00000)  | 1.1218    | .49318E-01   |
| $(y - y^*)$     | -.288393E-01 | .6265E-01  | -.460   | (.65062)  | -.16531   | .56957E-01   |
| $(i - i^*)$     | -.26207E-02  | .2496E-02  | -1.050  | (.29619)  | 6.8425    | 1.3422       |
| $(\pi - \pi^*)$ | -.466010E-02 | .4622E-01  | -.101   | (.88317)  | .20914    | .73198E-01   |
| Sigma           | .369525E-01  | .2328E-02  | 15.875  | (.00000)  |           |              |

## AR(1) Disturbance

|                        |          |  |           |
|------------------------|----------|--|-----------|
| Initial Value of Rho   | = .66764 | Final Value of Rho                       | = .99651  |
| Maximum Iterations     | = 20     | Durbin-Watson for Transformed Residuals  | = 2.29458 |
| Method = Prais-Winsten |          | Autocorrelation of Transformed Residuals | = -.1473  |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-----------|--------------|
| ONE             | 1.15658      | .5648E-01  | 20.478  | (.00000)  | 1.0000    | .00000       |
| $(m - m^*)$     | .676115E-02  | .1413E-01  | .478    | (.63239)  | 1.1218    | .49318E-01   |
| $(y - y^*)$     | .487292E-02  | .1046E-01  | .466    | (.64145)  | -.16531   | .56957E-01   |
| $(i - i^*)$     | -.106055E-02 | .7997E-03  | -1.326  | (.18457)  | 6.8425    | 1.3422       |
| $(\pi - \pi^*)$ | .434908E-01  | .2124E-01  | 2.048   | (.04058)  | .20914    | .73198E-01   |
| Rho             | .996614      | .7354E-02  | 135.520 | (.00000)  |           |              |

ที่มา : จากการคำนวณ

## ภาคผนวก จ

## 1) ผลการศึกษาอัตราแลกเปลี่ยนเงินเยนญี่ปุ่นต่อดอลลาร์สหรัฐฯ

## Ordinary Least Square Estimates

|                        |          |                                 |            |
|------------------------|----------|---------------------------------|------------|
| Dependent Variable     | $S$      | Log-Likelihood                  | 133.71     |
| Number of Observations | 135      | Restricted (Slopes=0) Log-L     | 110.26     |
| R-Squared              | .29397   | Chi-Squared (4)                 | 46.902     |
| Adjusted R-Squared     | .27225   | Significance Level              | .97119E-12 |
| F-Statistic (4,130)    | 13.53200 | Durbin-Watson Statistic         | .12223     |
| Significance of F-Test | .00000   | Estimated Autocorrelation (Rho) | .93888     |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .174114      | .7175      | .243    | (.79547)  | 1.0000      | .00000       |
| $(m - m^*)$     | .964585      | .3387      | 2.848   | (.00515)  | 2.1225      | .28575E-01   |
| $(y - y^*)$     | 1.43371      | .3245      | 4.419   | (.00004)  | -.40710E-01 | .31659E-01   |
| $(i - i^*)$     | -.230985E-01 | .5614E-02  | -4.115  | (.00011)  | -3.8915     | 2.1149       |
| $(\pi - \pi^*)$ | .725548      | .1810      | 4.010   | (.00015)  | -.17287     | .67546E-01   |
| Sigma           | .915474E-01  | .5571E-02  | 16.432  | (.00000)  |             |              |

## Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | .4550055    | 1.0000000   |             |                 |
| $(i - i^*)$     | -.3021360   | .0969255    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | -.4302832   | -.3305249   | .6499588    | 1.0000000       |

ที่มา : จากการคำนวณ

2) ผลการศึกษาอัตราแลกเปลี่ยนเงินเยนญี่ปุ่นต่อดอลลาร์สหรัฐฯหลังจากแก้ปัญหา multicollinearity โดยการทำ first-differences ตัวแปรในแบบจำลอง

Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 388.39 |
| Number of Observations | 134     | Restricted (Slopes=0) Log-L     | 386.40 |
| R-Squared              | .02991  | Chi-Squared (4)                 | 3.9776 |
| Adjusted R-Squared     | -.00017 | Significance Level              | .40905 |
| F-Statistic (4,129)    | .99444  | Durbin-Watson Statistic         | 1.5402 |
| Significance of F-Test | .41402  | Estimated Autocorrelation (Rho) | .22991 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | -.292829E-02 | .1176E-02  | --2.489 | (.01351)  | 1.0000      | .00000       |
| $(m - m^*)$     | .879421E-01  | .5259E-01  | 1.672   | (.09284)  | .43929E-03  | .22784E-01   |
| $(y - y^*)$     | -.836496E-01 | .1771      | -.472   | (.64243)  | -.41743E-03 | .67375E-02   |
| $(i - i^*)$     | .694361E-03  | .3430E-02  | .202    | (.82106)  | -.25373E-02 | .35087       |
| $(\pi - \pi^*)$ | -.341570E-01 | .5184E-01  | -.659   | (.51846)  | -.50633E-03 | .23107E-01   |
| Sigma           | .135861E-01  | .8299E-03  | 16.371  | (.00000)  |             |              |

Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | -.1227295   | 1.0000000   |             |                 |
| $(i - i^*)$     | -.0933894   | .1110351    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | -.0950443   | -.0064442   | -.1443134   | 1.0000000       |

ที่มา : จากการคำนวณ

### 3) ผลการศึกษาอัตราแลกเปลี่ยนเงินเยนญี่ปุ่นต่อดอลลาร์สหรัฐหลังจากแก้ปัญหา positive autocorrelation

#### Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 388.39 |
| Number of Observations | 134     | Restricted (Slopes=0) Log-L     | 386.40 |
| R-Squared              | .02991  | Chi-Squared (4)                 | 3.9776 |
| Adjusted R-Squared     | -.00017 | Significance Level              | .40905 |
| F-Statistic (4,129)    | .99444  | Durbin-Watson Statistic         | 1.5402 |
| Significance of F-Test | .41402  | Estimated Autocorrelation (Rho) | .22991 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | -.292829E-02 | .1176E-02  | -2.489  | (.01351)  | 1.0000      | .00000       |
| $(m - m^*)$     | .879421E-01  | .5259E-01  | 1.672   | (.09284)  | .43929E-03  | .22784E-01   |
| $(y - y^*)$     | -.836496E-01 | .1771      | -.472   | (.64243)  | -.41743E-03 | .67375E-02   |
| $(i - i^*)$     | .694361E-03  | .3430E-02  | .202    | (.82106)  | -.25373E-02 | .35087       |
| $(\pi - \pi^*)$ | -.341570E-01 | .5184E-01  | -.659   | (.51846)  | -.50633E-03 | .23107E-01   |
| Sigma           | .135861E-01  | .8299E-03  | 16.371  | (.00000)  |             |              |

#### AR(1) Disturbance

|                        |          |  |           |
|------------------------|----------|--|-----------|
| Initial Value of Rho   | = .22991 | Final Value of Rho                       | = .23653  |
| Maximum Iterations     | = 20     | Durbin-Watson for Transformed Residuals  | = 2.03212 |
| Method = Prais-Winsten |          | Autocorrelation of Transformed Residuals | = -.0161  |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | -.287201E-02 | .1494E-02  | -1.922  | (.05458)  | 1.0000      | .00000       |
| $(m - m^*)$     | .821012E-01  | .4623E-01  | 1.776   | (.07572)  | .43929E-03  | .22784E-01   |
| $(y - y^*)$     | -.184228E-01 | .1561      | -.118   | (.90607)  | -.41743E-03 | .67375E-02   |
| $(i - i^*)$     | .920975E-03  | .3462E-02  | .266    | (.79022)  | -.25373E-02 | .35087       |
| $(\pi - \pi^*)$ | -.406041E-01 | .4913E-01  | -.826   | (.40853)  | -.50633E-03 | .23107E-01   |
| Rho             | .236670      | .8425E-01  | 2.809   | (.00497)  |             |              |

ที่มา : จากการคำนวณ

## ภาคผนวก ข

## 1) ผลการศึกษาอัตราแลกเปลี่ยนเงินบาทเยอร์มันต่อดอลลาร์สหรัฐฯ

## Ordinary Least Square Estimates

|                        |          |                                 |            |
|------------------------|----------|---------------------------------|------------|
| Dependent Variable     | $S$      | Log-Likelihood                  | 188.49     |
| Number of Observations | 135      | Restricted (Slopes=0) Log-L     | 1.42.62    |
| R-Squared              | .49350   | Chi-Squared (4)                 | 91.740     |
| Adjusted R-Squared     | .47792   | Significance Level              | .32173E-13 |
| F-Statistic (4,130)    | 31.66602 | Durbin-Watson Statistic         | .12175     |
| Significance of F-Test | .00000   | Estimated Autocorrelation (Rho) | .93912     |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .669375E-01  | .3686E-01  | .1816   | (.06816)  | 1.0000      | .00000       |
| $(m - m^*)$     | -.895573     | .1385      | -6.468  | (.00000)  | -.25099     | .513352E-01  |
| $(y - y^*)$     | 1.51326      | .3560      | 4.251   | (.00007)  | -.22605E-01 | .25041E-01   |
| $(i - i^*)$     | -.120482E-01 | 3647E-02   | -3.304  | (.00139)  | -1.1354     | 2.9398       |
| $(\pi - \pi^*)$ | .207281      | .6948E-01  | 2.983   | (.00352)  | -.10011     | .13991       |
| Sigma           | .610158E-01  | .3713E-02  | 16.432  | (.00000)  |             |              |

ที่มา: จากการคำนวณ

2) ผลการศึกษาอัตราแลกเปลี่ยนมาร์กเยอรมันต่อดอลลาร์สหรัฐฯหลังจากแก้ปัญหา positive autocorrelation ด้วยวิธี Durbin two-step method

Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 401.84 |
| Number of Observations | 134     | Restricted (Slopes=0) Log-L     | 400.54 |
| R-Squared              | .01990  | Chi-Squared (4)                 | 2.6014 |
| Adjusted R-Squared     | -.01049 | Significance Level              | .62658 |
| F-Statistic (4,129)    | .65476  | Durbin-Watson Statistic         | 1.4424 |
| Significance of F-Test | .62757  | Estimated Autocorrelation (Rho) | .27881 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .717923E-02  | .1409E-02  | 5.097   | (.00000)  | 1.0000      | .00000       |
| $(m - m^*)$     | .675348E-01  | .1085      | .623    | (.54205)  | -.80822E-02 | .99779E-02   |
| $(y - y^*)$     | .592149E-01  | .1474      | .402    | (.69018)  | -.11887E-02 | .72860E-02   |
| $(i - i^*)$     | -.438623E-02 | .3273E-02  | -1.340  | (.17905)  | -.33058E-01 | .32763       |
| $(\pi - \pi^*)$ | .275776E-01  | .3426E-01  | .805    | (.42783)  | -.29800E-02 | .31442E-01   |
| Sigma           | .122883E-01  | .7506E-03  | 16.371  | (.00000)  |             |              |

ที่มา : จากการคำนวณ

3) ผลการศึกษาอัตราแลกเปลี่ยนมาร์กเยอรมันต่อดอลลาร์สหรัฐฯหลังจากแก้ปัญหา positive autocorrelation ด้วยวิธี Durbin two-step method ครั้งที่ 2

Ordinary Least Square Estimates

|                        |         |                                 |             |
|------------------------|---------|---------------------------------|-------------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 405.91      |
| Number of Observations | 133     | Restricted (Slopes=0) Log-L     | 403.85      |
| R-Squared              | .03113  | Chi-Squared (4)                 | 4.1132      |
| Adjusted R-Squared     | .00085  | Significance Level              | .39091      |
| F-Statistic (4,128)    | 1.02809 | Durbin-Watson Statistic         | 1.8926      |
| Significance of F-Test | .39610  | Estimated Autocorrelation (Rho) | .053700E-01 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .532192E-02  | .1191E-02  | 4.470   | (.00003)  | 1.0000      | .00000       |
| $(m - m^*)$     | .893916E-01  | .9871E-01  | .906    | (.37025)  | -.60187E-02 | .10475E-01   |
| $(y - y^*)$     | .129977      | .1257      | 1.034   | (.30392)  | -.84441E-03 | .81296E-02   |
| $(i - i^*)$     | -.467834E-02 | .3467E-02  | -1.349  | (.176000) | -.20962E-01 | 29.298       |
| $(\pi - \pi^*)$ | .299021E-01  | .3166E-01  | .944    | (.34935)  | -.21898E-02 | .32399-01    |
| Sigma           | .116540E-01  | .7146E-03  | 16.310  | (.00000)  |             |              |

ที่มา : จากการคำนวณ

## ภาคผนวก ข

## 1) ผลการศึกษาอัตราแลกเปลี่ยนดอลลาร์สหรัฐฯต่อปอนด์สเตอร์ลิง

## Ordinary Least Square Estimates

|                        |          |                                 |            |
|------------------------|----------|---------------------------------|------------|
| Dependent Variable     | $S$      | Log-Likelihood                  | 244.51     |
| Number of Observations | 111      | Restricted (Slopes=0) Log-L     | 216.27     |
| R-Squared              | .39936   | Chi-Squared (4)                 | 56.472     |
| Adjusted R-Squared     | .37670   | Significance Level              | .32173E-13 |
| F-Statistic (4,106)    | 17.61970 | Durbin-Watson Statistic         | .24477     |
| Significance of F-Test | .00000   | Estimated Autocorrelation (Rho) | .87761     |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X   | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|-------------|--------------|
| ONE             | .199092      | .1139E-01  | 17.486  | (.00000)  | 1.0000      | .00000       |
| $(m - m^*)$     | .437944E-01  | .2559E-01  | 1.711   | (.08600)  | .26726      | .11691       |
| $(y - y^*)$     | -.419678     | .2853      | -1.468  | (.14097)  | .12796E-01  | .13880E-01   |
| $(i - i^*)$     | -.313863E-02 | .2349E-02  | -1.336  | (.18094)  | -1.6317     | 2.3284       |
| $(\pi - \pi^*)$ | -.889829E-01 | .3466E-01  | -2.567  | (.01126)  | -.98844E-01 | .12844       |
| Sigma           | .273453E-01  | .1835E-02  | 14.900  | (.00000)  |             |              |

## Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | -.2125290   | 1.0000000   |             |                 |
| $(i - i^*)$     | .1858358    | .6692666    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | .1879267    | .4966869    | .8082940    | 1.0000000       |

ที่มา : จากการคำนวณ



2) ผลการศึกษาอัตราแลกเปลี่ยนดอลลาร์สหรัฐต่อปอนด์สเตอร์ลิงหลังจากแก้ปัญหา multicollinearity โดยการทำ first-differences ตัวแปรในแบบจำลอง

Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 327.86 |
| Number of Observations | 110     | Restricted (Slopes=0) Log-L     | 325.88 |
| R-Squared              | .03638  | Chi-Squared (4)                 | 3.9636 |
| Adjusted R-Squared     | -.00033 | Significance Level              | .41096 |
| F-Statistic (4,105)    | .99098  | Durbin-Watson Statistic         | 1.3562 |
| Significance of F-Test | .41683  | Estimated Autocorrelation (Rho) | .32189 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | .249634E-03  | .1209E-02  | .206    | (.81860)  | 1.0000     | .00000       |
| $(m - m^*)$     | .132293E-01  | .9130E-02  | 1.4449  | (.14629)  | -21657E-02 | .13520       |
| $(y - y^*)$     | .886102E-01  | .2645      | .301    | (.75765)  | .29587E-03 | .41227E-02   |
| $(i - i^*)$     | -.312263E-02 | .2557E-02  | -1.221  | (.22249)  | .54455E-01 | .48351       |
| $(\pi - \pi^*)$ | -.327365E-01 | .3271E-01  | -1.001  | (.32069)  | .80006E-03 | .36909E-01   |
| Sigma           | .125662E-01  | .8472E03   | 14.832  | (.00000)  |            |              |

Correlation Matrix

|                 | $(m - m^*)$ | $(y - y^*)$ | $(i - i^*)$ | $(\pi - \pi^*)$ |
|-----------------|-------------|-------------|-------------|-----------------|
| $(m - m^*)$     | 1.0000000   |             |             |                 |
| $(y - y^*)$     | -.0544270   | 1.0000000   |             |                 |
| $(i - i^*)$     | .2089640    | .0811246    | 1.0000000   |                 |
| $(\pi - \pi^*)$ | .0255407    | -.0755338   | .0009763    | 1.0000000       |

ที่มา : จากการคำนวณ

### 3) ผลการศึกษาอัตราแลกเปลี่ยนดอลลาร์สหรัฐฯต่อปอนด์สเตอร์ลิงหลังจากแก้ปัญหา positive autocorrelation

#### Ordinary Least Square Estimates

|                        |         |                                 |        |
|------------------------|---------|---------------------------------|--------|
| Dependent Variable     | $s$     | Log-Likelihood                  | 327.86 |
| Number of Observations | 110     | Restricted (Slopes=0) Log-L     | 325.88 |
| R-Squared              | .03638  | Chi-Squared (4)                 | 3.9636 |
| Adjusted R-Squared     | -.00033 | Significance Level              | .41096 |
| F-Statistic (4,105)    | .99098  | Durbin-Watson Statistic         | 1.3562 |
| Significance of F-Test | .41683  | Estimated Autocorrelation (Rho) | .32189 |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | .249634E-03  | .1209E-02  | .206    | (.81860)  | 1.0000     | .00000       |
| $(m - m^*)$     | .132293E-01  | .9130E-02  | 1.4449  | (.14629)  | -21657E-02 | .13520       |
| $(y - y^*)$     | .886102E-01  | .2645      | .301    | (.75765)  | .29587E-03 | .41227E-02   |
| $(i - i^*)$     | -.312263E-02 | .2557E-02  | -1.221  | (.22249)  | .54455E-01 | .48351       |
| $(\pi - \pi^*)$ | -.327365E-01 | .3271E-01  | -1.001  | (.32069)  | .80006E-03 | .36909E-01   |
| Sigma           | .125662E-01  | .8472E03   | 14.832  | (.00000)  |            |              |

#### AR(1) Disturbance

|                        |          |  |           |
|------------------------|----------|--|-----------|
| Initial Value of Rho   | = .32189 | Final Value of Rho                       | = .33116  |
| Maximum Iterations     | = 20     | Durbin-Watson for Transformed Residuals  | = 1.90155 |
| Method = Prais-Winsten |          | Autocorrelation of Transformed Residuals | = .0492   |

| Variable        | Coefficient  | Std. Error | T-ratio | (Sig.Lvl) | Mean of X  | Std.Dev.of X |
|-----------------|--------------|------------|---------|-----------|------------|--------------|
| ONE             | .223388E-03  | .1693E-02  | .132    | (.89500)  | 1.0000     | .00000       |
| $(m - m^*)$     | .884091E-02  | .7164E-02  | 1.234   | (.21721)  | -21657E-02 | .13520       |
| $(y - y^*)$     | .643770E-01  | .2405      | .268    | (.78894)  | .29587E-03 | .412227E-02  |
| $(i - i^*)$     | -.235264E-02 | .2445E-02  | -.962   | (.33596)  | .54455E-01 | .48351       |
| $(\pi - \pi^*)$ | -.276600E-01 | .2932E-01  | -.943   | (.34552)  | .80006E-03 | .36909E-01   |
| Rho             | .331307      | .9037E-01  | 3.666   | (.00025)  |            |              |

ที่มา : จากการคำนวณ

## ภาคผนวก ฉ

## ข้อมูลที่ใช้ในการศึกษา

## 1) ข้อมูลอัตราแลกเปลี่ยนเงินตราต่างประเทศ

โดยที่

B/USD = อัตราแลกเปลี่ยนบาทต่อดอลลาร์สหรัฐฯ

B/YEN = อัตราแลกเปลี่ยนบาทต่อเยนญี่ปุ่นหนึ่งร้อยเยน

B/MARK = อัตราแลกเปลี่ยนบาทต่อมาร์กเยอรมัน

B/SPD = อัตราแลกเปลี่ยนบาทต่อดอลลาร์สิงคโปร์

YEN/USD = อัตราแลกเปลี่ยนเยนญี่ปุ่นต่อดอลลาร์สหรัฐฯ

MARK/USD = อัตราแลกเปลี่ยนมาร์กเยอรมันต่อดอลลาร์สหรัฐฯ

USD/POUND = อัตราแลกเปลี่ยนดอลลาร์สหรัฐฯต่อปอนด์สเตอร์ลิง

| MONTH-YEAR | B/USD   | B/YEN   | B/MARK  | B/SPD   | YEN/USD  | MARK/USD | USD/POUND |
|------------|---------|---------|---------|---------|----------|----------|-----------|
| Dec-84     | 27.0680 | 10.9351 | 8.7199  | 12.4594 | 243.2320 | 3.0110   | 1.2391    |
| Jan-85     | 27.3590 | 10.7608 | 8.6339  | 12.4034 | 254.1053 | 3.1685   | 1.1266    |
| Feb-85     | 27.9215 | 10.7356 | 8.4885  | 12.3986 | 260.3350 | 3.3001   | 1.0929    |
| Mar-85     | 28.0350 | 10.8571 | 8.4902  | 12.3952 | 258.4438 | 3.2931   | 1.1252    |
| Apr-85     | 27.4040 | 10.9131 | 8.8970  | 12.3702 | 251.6705 | 3.0893   | 1.2392    |
| May-85     | 27.4879 | 10.9372 | 8.8545  | 12.3701 | 251.5740 | 3.1083   | 1.2483    |
| Jun-85     | 27.3613 | 11.0106 | 8.9207  | 12.2841 | 248.9500 | 3.0607   | 1.2817    |
| Jul-85     | 26.9572 | 11.1805 | 9.2492  | 12.1802 | 241.6980 | 2.9046   | 1.3811    |
| Aug-85     | 26.7810 | 11.3006 | 9.6107  | 12.0964 | 237.2000 | 2.7893   | 1.3848    |
| Sep-85     | 27.0255 | 11.4062 | 9.5087  | 12.1076 | 237.2653 | 2.8377   | 1.3579    |
| Oct-85     | 26.4927 | 12.3527 | 10.0125 | 12.3971 | 214.8227 | 2.6420   | 1.4230    |
| Nov-85     | 26.2030 | 12.8662 | 10.0932 | 12.4138 | 203.8490 | 2.5946   | 1.4390    |
| Dec-85     | 26.6392 | 13.1427 | 10.5626 | 12.5704 | 202.7343 | 2.5104   | 1.4450    |
| Jan-86     | 26.6214 | 13.3190 | 10.9037 | 12.5247 | 200.0500 | 2.4377   | 1.4258    |
| Feb-86     | 26.4413 | 14.3206 | 11.3232 | 12.3618 | 184.4240 | 2.3263   | 1.4303    |
| Mar-86     | 26.3745 | 14.7722 | 11.6140 | 12.1933 | 178.8360 | 2.2769   | 1.4682    |
| Apr-86     | 26.3750 | 15.1346 | 11.6529 | 12.0581 | 175.5536 | 2.2697   | 1.5000    |
| May-86     | 26.2944 | 15.7924 | 11.8203 | 11.8741 | 166.8870 | 2.2286   | 1.5204    |
| Jun-86     | 26.3402 | 15.7153 | 11.7771 | 11.3412 | 167.8120 | 2.2310   | 1.5103    |
| Jul-86     | 26.1620 | 16.5134 | 12.1480 | 11.9682 | 158.5490 | 2.1491   | 1.5077    |

| MONTH-YEAR | B/USD   | B/YEN   | B/MARK  | B/SPD   | YEN/USD  | MARK/USD | USD/POUND |
|------------|---------|---------|---------|---------|----------|----------|-----------|
| Aug-86     | 26.0645 | 16.9519 | 12.6307 | 12.0593 | 154.1030 | 2.0604   | 1.4861    |
| Sep-86     | 26.0805 | 16.8934 | 12.7816 | 12.0366 | 154.7180 | 2.0414   | 1.4684    |
| Oct-86     | 26.0861 | 16.7570 | 13.0273 | 11.9910 | 155.9530 | 2.0056   | 1.4276    |
| Nov-86     | 26.2390 | 16.1317 | 12.9512 | 11.9717 | 162.7180 | 2.0231   | 1.4243    |
| Dec-86     | 26.1986 | 16.1721 | 13.1801 | 11.9590 | 162.1600 | 1.9872   | 1.4401    |
| Jan-87     | 25.9383 | 16.7918 | 13.9560 | 12.0514 | 154.2880 | 1.8522   | 1.5085    |
| Feb-87     | 25.8913 | 16.9035 | 14.1906 | 12.0856 | 153.5550 | 1.8243   | 1.5287    |
| Mar-87     | 25.8450 | 17.0749 | 14.0807 | 12.0681 | 151.5510 | 1.8348   | 1.5927    |
| Apr-87     | 25.6415 | 18.0047 | 14.1640 | 12.0162 | 142.9380 | 1.8124   | 1.6314    |
| May-87     | 25.5928 | 18.2565 | 14.3292 | 12.0769 | 140.4680 | 1.7872   | 1.6669    |
| Jun-87     | 25.7386 | 17.8422 | 14.1556 | 12.1548 | 144.6095 | 1.8188   | 1.6285    |
| Jul-87     | 25.9179 | 17.2750 | 14.0250 | 12.2319 | 150.2040 | 1.8489   | 1.6096    |
| Aug-87     | 25.8760 | 17.5895 | 13.9442 | 12.2723 | 147.6160 | 1.8557   | 1.5999    |
| Sep-87     | 25.7018 | 17.9993 | 14.1927 | 12.2790 | 143.0160 | 1.8132   | 1.6451    |
| Oct-87     | 25.7398 | 17.9720 | 14.2720 | 12.3160 | 143.3370 | 1.7988   | 1.6643    |
| Nov-87     | 25.4474 | 18.8274 | 15.1112 | 12.4394 | 135.2580 | 1.6805   | 1.7771    |
| Dec-87     | 25.2005 | 19.6980 | 15.4283 | 12.8282 | 128.3770 | 1.6323   | 1.8297    |
| Jan-88     | 25.2085 | 19.8171 | 15.2580 | 12.4560 | 127.4240 | 1.6555   | 1.7999    |
| Feb-88     | 25.2874 | 19.6182 | 14.9010 | 12.5266 | 129.1570 | 1.6969   | 1.7581    |
| Mar-88     | 25.1905 | 19.8423 | 15.0160 | 12.5094 | 127.1310 | 1.6768   | 1.8344    |
| Apr-88     | 25.1025 | 20.1731 | 15.0436 | 12.5378 | 124.8650 | 1.6717   | 1.8752    |
| May-88     | 25.1261 | 20.1806 | 14.8427 | 12.5069 | 124.7290 | 1.6941   | 1.8689    |
| Jun-88     | 25.2362 | 19.8956 | 14.3961 | 12.4566 | 127.1350 | 1.7575   | 1.7773    |
| Jul-88     | 25.4772 | 19.1939 | 13.8232 | 12.4534 | 133.1060 | 1.8462   | 1.7056    |
| Aug-88     | 25.5091 | 19.1333 | 13.5213 | 12.5042 | 133.6030 | 1.8872   | 1.6968    |
| Sep-88     | 25.5077 | 19.0050 | 13.6745 | 12.5041 | 134.4520 | 1.8655   | 1.6849    |
| Oct-88     | 25.3305 | 19.6356 | 13.8862 | 12.5178 | 128.8410 | 1.8185   | 1.7379    |
| Nov-88     | 25.4474 | 18.8274 | 15.1112 | 12.4394 | 135.2580 | 1.6805   | 1.7771    |
| Dec-88     | 25.1250 | 20.3523 | 14.2936 | 12.9285 | 123.5750 | 1.7563   | 1.8255    |
| Jan-89     | 25.2793 | 19.9342 | 13.8095 | 13.0289 | 127.2430 | 1.8351   | 1.7745    |
| Feb-89     | 25.3392 | 19.8380 | 13.6759 | 13.1422 | 127.7680 | 1.8501   | 1.7533    |
| Mar-89     | 25.4520 | 19.5229 | 13.6476 | 13.1244 | 130.3100 | 1.8683   | 1.7145    |
| Apr-89     | 25.4956 | 19.3106 | 13.6439 | 13.0794 | 132.0140 | 1.8696   | 1.7010    |
| May-89     | 25.7250 | 18.6217 | 13.1957 | 13.1246 | 138.3990 | 1.9455   | 1.6311    |
| Jun-89     | 25.8955 | 18.0299 | 13.0886 | 13.2286 | 143.9380 | 1.9771   | 1.5547    |
| Jul-89     | 25.7734 | 18.3450 | 13.6293 | 13.1535 | 140.6240 | 1.8899   | 1.6282    |
| Aug-89     | 25.8268 | 18.3121 | 13.4290 | 13.1871 | 141.1970 | 1.9297   | 1.5929    |
| Sep-89     | 25.9617 | 17.8869 | 13.3044 | 13.1392 | 145.3260 | 1.9485   | 1.5734    |
| Oct-89     | 25.8231 | 18.2017 | 13.8415 | 13.1580 | 141.9850 | 1.8667   | 1.5868    |
| Nov-89     | 25.8314 | 17.9970 | 14.1067 | 13.1896 | 143.5600 | 1.8295   | 1.5735    |
| Dec-89     | 25.7213 | 17.9160 | 14.8375 | 13.4188 | 143.6610 | 1.7359   | 1.5980    |
| Jan-90     | 25.7009 | 17.7104 | 15.1759 | 13.5993 | 145.0920 | 1.6928   | 1.6520    |
| Feb-90     | 25.6866 | 17.6591 | 15.3229 | 13.7841 | 145.5460 | 1.6757   | 1.6960    |

| MONTH-YEAR | B/USD   | B/YEN   | B/MARK  | B/SPD   | YEN/USD  | MARK/USD | USD/POUND |
|------------|---------|---------|---------|---------|----------|----------|-----------|
| Mar-90     | 25.8855 | 16.9123 | 15.1870 | 13.7934 | 153.1940 | 1.7051   | 1.6249    |
| Apr-90     | 25.9794 | 16.3797 | 15.4009 | 13.8318 | 158.4500 | 1.6855   | 1.6384    |
| May-90     | 25.8400 | 16.8594 | 15.5412 | 13.9178 | 153.5190 | 1.6634   | 1.6770    |
| Jun-90     | 25.8307 | 16.8019 | 15.3394 | 13.9857 | 153.7790 | 1.6813   | 1.7115    |
| Jul-90     | 25.6555 | 17.1930 | 15.6414 | 14.0857 | 149.2280 | 1.6364   | 1.8119    |
| Aug-90     | 25.5364 | 17.3438 | 16.2617 | 14.2481 | 147.4650 | 1.5704   | 1.9007    |
| Sep-90     | 25.3415 | 18.2492 | 16.1492 | 14.3464 | 138.9550 | 1.5691   | 1.8813    |
| Oct-90     | 25.0800 | 19.2457 | 16.4555 | 14.5002 | 129.7320 | 1.5230   | 1.9487    |
| Nov-90     | 25.0277 | 19.4049 | 16.8468 | 14.6534 | 129.0130 | 1.4849   | 1.9637    |
| Dec-90     | 25.1678 | 18.8007 | 16.7883 | 14.5769 | 133.7160 | 1.4968   | 1.9232    |
| Jan-91     | 25.1986 | 18.8035 | 16.6821 | 14.4451 | 133.6510 | 1.5087   | 1.9353    |
| Feb-91     | 25.0897 | 19.2647 | 17.0065 | 14.6153 | 130.4430 | 1.4807   | 1.9646    |
| Mar-91     | 25.4221 | 18.5362 | 15.8765 | 14.4874 | 136.5280 | 1.6085   | 1.8264    |
| Apr-91     | 25.5490 | 18.6126 | 15.0136 | 14.4288 | 137.0550 | 1.7013   | 1.7514    |
| May-91     | 25.6060 | 18.5382 | 14.9232 | 14.4796 | 138.0800 | 1.7182   | 1.7262    |
| Jun-91     | 25.7184 | 18.4082 | 14.4505 | 14.4756 | 139.8560 | 1.7831   | 1.6495    |
| Jul-91     | 25.7174 | 18.6372 | 14.3495 | 14.6392 | 137.9970 | 1.7861   | 1.6501    |
| Aug-91     | 25.6812 | 18.7628 | 14.7222 | 14.8632 | 136.8520 | 1.7434   | 1.6842    |
| Sep-91     | 25.5831 | 19.0157 | 15.0619 | 15.0219 | 134.5890 | 1.6929   | 1.7273    |
| Oct-91     | 25.5125 | 19.4987 | 15.1031 | 15.0732 | 130.8060 | 1.6907   | 1.7220    |
| Nov-91     | 25.4560 | 19.6250 | 15.6736 | 15.2715 | 129.6410 | 1.6220   | 1.7772    |
| Dec-91     | 25.3455 | 19.7707 | 16.2177 | 15.3914 | 128.1480 | 1.5617   | 1.8287    |
| Jan-92     | 25.2988 | 20.2248 | 16.0675 | 15.4921 | 125.0430 | 1.5799   | 1.8089    |
| Feb-92     | 25.4108 | 19.9299 | 15.7162 | 14.5368 | 127.5320 | 1.6188   | 1.7785    |
| Mar-92     | 25.5945 | 19.2582 | 15.4024 | 15.4170 | 132.6860 | 1.6594   | 1.7257    |
| Apr-92     | 25.6076 | 19.1607 | 15.5060 | 15.4572 | 133.5390 | 1.6486   | 1.7567    |
| May-92     | 25.5000 | 19.5168 | 15.7269 | 15.5496 | 130.5590 | 1.5957   | 1.8091    |
| Jun-92     | 25.3641 | 19.9966 | 16.0996 | 15.6120 | 126.9090 | 1.5725   | 1.8558    |
| Jul-92     | 25.2517 | 20.0896 | 16.9472 | 15.6477 | 125.6680 | 1.4885   | 1.9201    |
| Aug-92     | 25.2240 | 19.9773 | 17.3966 | 15.6826 | 126.3450 | 1.4462   | 1.9450    |
| Sep-92     | 25.1677 | 20.5125 | 17.3832 | 15.7449 | 122.7350 | 1.4510   | 1.8450    |
| Oct-92     | 25.2155 | 20.8236 | 17.0705 | 15.7078 | 121.1310 | 1.4859   | 1.6555    |
| Nov-92     | 25.4250 | 20.5332 | 16.0522 | 15.5798 | 123.8830 | 1.5869   | 1.5271    |
| Dec-92     | 25.4480 | 20.5333 | 16.1017 | 15.5269 | 123.9820 | 1.5798   | 1.5514    |
| Jan-93     | 25.5000 | 20.3942 | 15.4683 | 15.4386 | 125.0010 | 1.6151   | 1.5337    |
| Feb-93     | 25.4665 | 21.0355 | 15.5202 | 15.4719 | 120.9960 | 1.6422   | 1.4395    |
| Mar-93     | 25.3927 | 21.6882 | 15.4101 | 15.4423 | 117.0230 | 1.6464   | 1.4632    |
| Apr-93     | 25.2033 | 22.8013 | 15.7906 | 15.5527 | 112.3800 | 1.5943   | 1.5472    |
| May-93     | 25.1924 | 22.8488 | 15.6714 | 15.6165 | 110.2240 | 1.6063   | 1.5504    |
| Jun-93     | 25.1836 | 23.4763 | 15.2773 | 15.5911 | 107.2900 | 1.6549   | 1.5091    |
| Jul-93     | 25.2869 | 23.4569 | 14.7594 | 15.6045 | 107.7140 | 1.7146   | 1.4974    |
| Aug-93     | 25.1585 | 24.2712 | 14.8495 | 15.6232 | 103.6970 | 1.6923   | 1.4928    |
| Sep-93     | 25.1636 | 23.8902 | 15.5045 | 15.7479 | 105.2750 | 1.6202   | 1.5257    |

| MONTH-YEAR | B/USD   | B/YEN   | B/MARK  | B/SPD   | YEN/USD  | MARK/USD | USD/POUND |
|------------|---------|---------|---------|---------|----------|----------|-----------|
| Oct-93     | 25.2305 | 23.6228 | 15.4236 | 16.0514 | 106.9420 | 1.6409   | 1.5032    |
| Nov-93     | 25.3377 | 23.4977 | 14.9824 | 15.8940 | 107.8140 | 1.7002   | 1.4815    |
| Dec-93     | 25.4205 | 23.1511 | 14.8784 | 15.9217 | 109.7600 | 1.7116   | 1.4901    |
| Jan-94     | 25.5035 | 22.8616 | 14.6377 | 15.9091 | 111.4610 | 1.7423   | 1.4937    |
| Feb-94     | 25.3524 | 23.8455 | 14.5999 | 15.9654 | 106.0170 | 1.7345   | 1.4795    |
| Mar-94     | 25.2694 | 24.0364 | 14.9276 | 15.9712 | 105.1730 | 1.6910   | 1.4926    |
| Apr-94     | 25.2209 | 24.4070 | 14.8917 | 16.1438 | 103.5390 | 1.6987   | 1.4839    |
| May-94     | 25.1797 | 24.2658 | 15.1893 | 16.2770 | 104.0140 | 1.6564   | 1.5039    |
| Jun-94     | 25.1136 | 24.4614 | 15.4173 | 16.4067 | 102.6960 | 1.6274   | 1.5265    |
| Jul-94     | 24.9492 | 25.3122 | 15.9164 | 16.4736 | 98.5560  | 1.5693   | 1.5454    |
| Aug-94     | 24.9982 | 25.0433 | 15.9520 | 16.6150 | 99.8570  | 1.5640   | 1.5428    |
| Sep-94     | 24.9509 | 25.2534 | 16.0924 | 16.7514 | 98.8360  | 1.5494   | 1.5652    |
| Oct-94     | 24.9310 | 25.2923 | 16.3758 | 16.8794 | 98.4680  | 1.5202   | 1.6069    |
| Nov-94     | 24.9564 | 25.4740 | 16.2361 | 16.9944 | 98.0410  | 1.5404   | 1.5883    |
| Dec-94     | 25.0735 | 25.0440 | 15.9559 | 17.1175 | 100.2230 | 1.5704   | 1.5593    |
| Jan-95     | 25.0726 | 25.1186 | 16.3465 | 17.2475 | 99.7440  | 1.5301   | 1.5752    |
| Feb-95     | 24.9666 | 25.4399 | 16.6494 | 17.1944 | 98.1920  | 1.5003   | 1.5732    |
| Mar-95     | 24.7333 | 27.2616 | 17.5859 | 17.3817 | 90.8920  | 1.4046   | 1.6011    |
| Apr-95     | 24.5300 | 29.4031 | 17.8267 | 17.5368 | 83.5340  | 1.3791   | 1.6092    |
| May-95     | 24.6360 | 29.0364 | 17.5156 | 17.6702 | 85.2050  | 1.4098   | 1.5885    |
| Jun-95     | 24.6477 | 29.1745 | 17.6051 | 17.6777 | 84.5380  | 1.3987   | 1.5964    |
| Jul-95     | 24.7200 | 28.3700 | 17.8100 | 17.6800 | 87.2370  | 1.3879   | 1.5958    |
| Aug-95     | 24.9200 | 26.3800 | 17.2700 | 17.6800 | 94.5560  | 1.4464   | 1.5667    |
| Sep-95     | 25.1000 | 24.9800 | 17.1700 | 17.5200 | 100.2990 | 1.4600   | 1.5600    |
| Oct-95     | 25.0800 | 24.9000 | 17.7300 | 17.6300 | 100.6700 | 1.4136   | 1.5788    |
| Nov-95     | 25.1300 | 24.6500 | 17.7400 | 17.7900 | 101.8790 | 1.4184   | 1.5604    |
| Dec-95     | 25.1400 | 24.6700 | 17.4600 | 17.7700 | 101.8600 | 1.4402   | 1.5413    |
| Jan-96     | 25.2700 | 23.9000 | 17.2800 | 17.7800 | 105.8220 | 1.4640   | 1.5313    |
| Feb-96     | 25.2200 | 23.8400 | 17.2100 | 17.8400 | 105.7060 | 1.4655   | 1.5377    |
| Mar-96     | 25.2100 | 23.8000 | 17.0600 | 17.8900 | 105.8180 | 1.4769   | 1.5281    |
| Apr-96     | 25.2500 | 23.5500 | 16.7900 | 17.9300 | 106.5650 | 1.5056   | 1.5165    |
| May-96     | 25.2700 | 23.7600 | 16.4800 | 17.9500 | 106.4870 | 1.5327   | 1.5161    |
| Jun-96     | 25.3200 | 23.2700 | 16.5900 | 17.9700 | 108.8150 | 1.8277   | 1.5422    |
| Jul-96     | 25.3200 | 23.1500 | 16.8200 | 17.8900 | 109.2500 | 1.5020   | 1.5541    |
| Aug-96     | 25.2500 | 23.4300 | 17.0400 | 17.8800 | 107.8350 | 1.4821   | 1.5507    |
| Sep-96     | 25.3400 | 23.0800 | 16.8400 | 17.9900 | 109.7710 | 1.5080   | 1.5597    |
| Oct-96     | 25.4400 | 22.6500 | 16.6400 | 18.0200 | 112.3340 | 1.5280   | 1.5867    |
| Nov-96     | 25.4200 | 22.6400 | 16.8300 | 18.1300 | 112.3610 | 1.5115   | 1.6624    |
| Dec-96     | 25.5300 | 22.4200 | 16.4500 | 18.2300 | 113.7730 | 1.5514   | 1.6654    |
| Jan-97     | 25.6900 | 21.8200 | 16.0400 | 18.2800 | 118.1620 | 1.6058   | 1.6597    |
| Feb-97     | 25.8800 | 21.0600 | 15.4900 | 18.2800 | 123.0170 | 1.6736   | 1.6273    |
| Mar-97     | 25.9200 | 21.1400 | 15.2900 | 18.0600 | 122.6650 | 1.6942   | 1.6404    |
| Apr-97     | 26.0300 | 20.7300 | 15.2300 | 18.0600 | 125.4710 | 1.7125   | 1.6299    |

| MONTH-YEAR | B/USD   | B/YEN   | B/MARK  | B/SPD   | YEN/USD  | MARK/USD | USD/POUND |
|------------|---------|---------|---------|---------|----------|----------|-----------|
| May-97     | 25.8400 | 21.7700 | 15.2000 | 18.0000 | 118.8870 | 1.7030   | 1.6334    |
| Jun-97     | 25.7500 | 22.5400 | 14.9300 | 18.0400 | 114.3080 | 1.7271   | 1.6461    |

ที่มา : รายงานเศรษฐกิจรายเดือน ธนาคารแห่งประเทศไทย

มหาวิทยาลัยเชียงใหม่  
Chiang Mai University

## 2) ข้อมูลปริมาณเงินของแต่ละประเทศ

โดยที่

GERMS = ปริมาณเงินของประเทศเยอรมนี

JAPMS = ปริมาณเงินของประเทศญี่ปุ่น

USAMS = ปริมาณเงินของประเทศสหรัฐฯ

ENGMS = ปริมาณเงินของประเทศอังกฤษ

THAMS = ปริมาณเงินของประเทศไทย

SINMS = ปริมาณเงินของประเทศสิงคโปร์

หน่วย : ล้านหน่วยเงินตราแต่ละประเทศ

| MONTH-YEAR | GERMS  | JAPMS    | USAMS  | ENGMS  | THAMS  | SINMS |
|------------|--------|----------|--------|--------|--------|-------|
| Dec-84     | 294500 | 86375000 | NA     | NA     | 88770  | 8866  |
| Jan-85     | 291000 | 77642000 | 568200 | NA     | 90146  | 8758  |
| Feb-85     | 289500 | 79113000 | 558600 | NA     | 92127  | 8835  |
| Mar-85     | 291600 | 87676000 | 564900 | NA     | 93176  | 8663  |
| Apr-85     | 289900 | 82176000 | 581700 | NA     | 89670  | 8600  |
| May-85     | 291900 | 82172000 | 576200 | NA     | 86916  | 8699  |
| Jun-85     | 292300 | 87347000 | 592300 | NA     | 82757  | 8673  |
| Jul-85     | 293800 | 80887000 | 599100 | NA     | 83501  | 8631  |
| Aug-85     | 295600 | 79528000 | 601500 | NA     | 84333  | 8652  |
| Sep-85     | 300600 | 83329000 | 608600 | NA     | 85359  | 8293  |
| Oct-85     | 303700 | 78096000 | 611000 | NA     | 83413  | 8322  |
| Nov-85     | 303600 | 81561000 | 621700 | NA     | 84557  | 9121  |
| Dec-85     | 312000 | 88980000 | 640000 | NA     | 85845  | 8785  |
| Jan-86     | 311500 | 80973000 | 633500 | NA     | 91241  | 8730  |
| Feb-86     | 312400 | 80960000 | 619200 | NA     | 97564  | 8627  |
| Mar-86     | 320400 | 89049000 | 630500 | NA     | 95949  | 8786  |
| Apr-86     | 321300 | 88236000 | 652800 | NA     | 93583  | 8684  |
| May-86     | 322400 | 87369000 | 651700 | NA     | 91525  | 8743  |
| Jun-86     | 325600 | 90798000 | 669100 | NA     | 88974  | 8894  |
| Jul-86     | 326900 | 87054000 | 679800 | NA     | 88062  | 8924  |
| Aug-86     | 328900 | 89416000 | 684600 | NA     | 88736  | 8853  |
| Sep-86     | 331700 | 88418000 | 691700 | NA     | 92738  | 9124  |
| Oct-86     | 334100 | 87319000 | 699200 | NA     | 96443  | 9288  |
| Nov-86     | 337800 | 93678000 | 715700 | NA     | 96785  | 9473  |
| Dec-86     | 337600 | 98214000 | 746500 | NA     | 102427 | 9822  |
| Jan-87     | 339500 | 89837000 | 744400 | 292836 | 114187 | 10073 |
| Feb-87     | 342400 | 91583000 | 723300 | 296783 | 114447 | 9912  |



| MONTH-YEAR | GERMS  | JAPMS     | USAMS  | ENGMS  | THAMS  | SINMS |
|------------|--------|-----------|--------|--------|--------|-------|
| Mar-87     | 344100 | 97671000  | 728900 | 302861 | 115990 | 9997  |
| Apr-87     | 348300 | 97673000  | 757500 | 308040 | 113455 | 10016 |
| May-87     | 352500 | 100909000 | 744900 | 311761 | 111148 | 12644 |
| Jun-87     | 356900 | 98997000  | 749100 | 315569 | 112229 | 10631 |
| Jul-87     | 357900 | 96818000  | 751500 | 322511 | 111132 | 10396 |
| Aug-87     | 362800 | 94689000  | 745000 | 324336 | 112117 | 11256 |
| Sep-87     | 363300 | 97144000  | 745200 | 326846 | 110312 | 10322 |
| Oct-87     | 365500 | 92946000  | 753700 | 332099 | 114131 | 10592 |
| Nov-87     | 366900 | 95980000  | 756000 | 334032 | 119732 | 10785 |
| Dec-87     | 363000 | 102973000 | 765900 | 337689 | 132396 | 11031 |
| Jan-88     | 367700 | 100440000 | 764700 | 339914 | 132753 | 10808 |
| Feb-88     | 378000 | 98639000  | 745000 | 339572 | 140793 | 11027 |
| Mar-88     | 378900 | 106410000 | 752100 | 348616 | 141170 | 11701 |
| Apr-88     | 383000 | 105486000 | 778300 | 349569 | 140037 | 10803 |
| May-88     | 388300 | 104748000 | 763800 | 35289  | 139438 | 11206 |
| Jun-88     | 393300 | 105189000 | 778800 | 363387 | 135360 | 11183 |
| Jul-88     | 394600 | 105587000 | 786900 | 370192 | 132708 | 11175 |
| Aug-88     | 396200 | 100132000 | 782300 | 374199 | 131574 | 11239 |
| Sep-88     | 396600 | 101543000 | 781000 | 382018 | 130350 | 11046 |
| Oct-88     | 398600 | 101249000 | 782100 | 382987 | 130353 | 11469 |
| Nov-88     | 401300 | 105457000 | 788300 | 386093 | 133395 | 11779 |
| Dec-88     | 401400 | 111844000 | 804400 | 393988 | 148491 | 11958 |
| Jan-89     | 409500 | 107096000 | 793000 | 393572 | 152312 | 11968 |
| Feb-89     | 411900 | 108339000 | 772300 | 399274 | 160665 | 11984 |
| Mar-89     | 413200 | 115335000 | 775100 | 410942 | 165743 | 12014 |
| Apr-89     | 409200 | 116471000 | 791000 | 414287 | 166698 | 12778 |
| May-89     | 411400 | 109474000 | 767100 | 420744 | 165302 | 12227 |
| Jun-89     | 413000 | 108962000 | 773800 | 436368 | 160761 | 12537 |
| Jul-89     | 416100 | 105421000 | 782300 | 437219 | 159557 | 12655 |
| Aug-89     | 415000 | 103145000 | 778100 | 445379 | 162555 | 12945 |
| Sep-89     | 415800 | 110930000 | 779100 | 453243 | 164203 | 12839 |
| Oct-89     | 417100 | 101835000 | 785000 | 460052 | 164035 | 13358 |
| Nov-89     | 417900 | 102278000 | 793800 | 464609 | 162728 | 15744 |
| Dec-89     | 421800 | 114474000 | 824100 | 473282 | 174701 | 13745 |
| Jan-90     | 421500 | 106661000 | 780200 | 473647 | 186179 | 19039 |
| Feb-90     | 426400 | 109886000 | 786000 | 475886 | 199189 | 14237 |
| Mar-90     | 422800 | 122028000 | 797800 | 489951 | 200867 | 13691 |
| Apr-90     | 426800 | 120203000 | 798900 | 492846 | 196358 | 13822 |
| May-90     | 427600 | 107458000 | 796800 | 497466 | 194825 | 13702 |
| Jun-90     | 484000 | 118164000 | 809200 | 506078 | 181951 | 13688 |
| Jul-90     | 500100 | 108620000 | 800200 | 504607 | 187250 | 13998 |
| Aug-90     | 508400 | 106160000 | 809100 | 508070 | 187571 | 13732 |
| Sep-90     | 510300 | 114857000 | 812100 | 518452 | 186170 | 13694 |

| MONTH-YEAR | GERMS  | JAPMS     | USAMS   | ENGMS  | THAMS  | SINMS |
|------------|--------|-----------|---------|--------|--------|-------|
| Oct-90     | 507900 | 105239000 | 811000  | 516277 | 186910 | 13792 |
| Nov-90     | 505500 | 107067000 | 822200  | 521707 | 186641 | 14396 |
| Dec-90     | 541200 | 119628000 | 854100  | 523077 | 195414 | 15261 |
| Jan-91     | 539600 | 108647000 | 815400  | 523584 | 188644 | 14844 |
| Feb-91     | 541300 | 110628000 | 821700  | 525346 | 200631 | 14978 |
| Mar-91     | 541800 | 124576000 | 840800  | 536988 | 201216 | 14937 |
| Apr-91     | 536500 | 118717000 | 833000  | 539704 | 196118 | 14662 |
| May-91     | 543200 | 113559000 | 841000  | 545861 | 199337 | 14716 |
| Jun-91     | 541200 | 125357000 | 856400  | 550780 | 186812 | 14634 |
| Jul-91     | 552100 | 115361000 | 853600  | 548060 | 185224 | 16015 |
| Aug-91     | 552600 | 119059000 | 858200  | 547848 | 186979 | 14561 |
| Sep-91     | 551800 | 117769000 | 854000  | 553541 | 188282 | 14721 |
| Oct-91     | 555200 | 117098000 | 873100  | 551268 | 190077 | 14967 |
| Nov-91     | 557700 | 124182000 | 898200  | 553554 | 199288 | 15276 |
| Dec-91     | 558300 | 131044000 | 823900  | 531768 | 222385 | 16430 |
| Jan-92     | 560600 | 119691000 | 904600  | 534204 | 241252 | 16796 |
| Feb-92     | 564000 | 126059000 | 915700  | 534955 | 234608 | 15973 |
| Mar-92     | 567800 | 129313000 | 929600  | 542891 | 238805 | 16694 |
| Apr-92     | 573300 | 128162000 | 941000  | 544874 | 237295 | 16323 |
| May-92     | 575100 | 129766000 | 943200  | 544097 | 234364 | 16743 |
| Jun-92     | 577000 | 129412000 | 943300  | 547899 | 223922 | 17033 |
| Jul-92     | 583500 | 124241000 | 957500  | 548046 | 228141 | 17239 |
| Aug-92     | 586000 | 121270000 | 964400  | 548623 | 229216 | 17125 |
| Sep-92     | 597700 | 124309000 | 977000  | 567495 | 225054 | 17905 |
| Oct-92     | 602600 | 125270000 | 1002600 | 573218 | 230329 | 17905 |
| Nov-92     | 620100 | 124659000 | 1022800 | 573504 | 234519 | 17851 |
| Dec-92     | 626000 | 136138000 | 1058600 | 575944 | 249717 | 18515 |
| Jan-93     | 613800 | 127714000 | 1014800 | 569275 | 249811 | 18733 |
| Feb-93     | 616900 | 129665000 | 1019700 | 573533 | 249311 | 18433 |
| Mar-93     | 623800 | 135725000 | 1032300 | 581825 | 249539 | 18770 |
| Apr-93     | 625400 | 133386000 | 1046100 | 580386 | 256204 | 19241 |
| May-93     | 628500 | 128211000 | 1059700 | 581919 | 259152 | 19227 |
| Jun-93     | 634900 | 133831000 | 1073200 | 584485 | 243736 | 19220 |
| Jul-93     | 642800 | 132778000 | 1084600 | 586520 | 247820 | 19273 |
| Aug-93     | 646200 | 125603000 | 1088600 | 587268 | 257861 | 19564 |
| Sep-93     | 654100 | 129863000 | 1099100 | 588923 | 251944 | 19978 |
| Oct-93     | 658200 | 130566000 | 1111800 | 592439 | 258835 | 25500 |
| Nov-93     | 673700 | 128637000 | 1129600 | 597901 | 269611 | 22057 |
| Dec-93     | 676700 | 145614000 | 1153800 | 601845 | 296156 | 22882 |
| Jan-94     | 684200 | 130084000 | 1142800 | 601897 | 297552 | 22713 |
| Feb-94     | 683400 | 133228000 | 1124700 | 608818 | 303083 | 22070 |
| Mar-94     | 690600 | 141975000 | 1131900 | 622032 | 307353 | 22491 |
| Apr-94     | 697900 | 145104000 | 1150200 | 621834 | 303711 | 21532 |

| MONTH-YEAR | GERMS  | JAPMS     | USAMS   | ENGMS  | THAMS  | SINMS |
|------------|--------|-----------|---------|--------|--------|-------|
| May-94     | 698000 | 134496000 | 1132800 | 627833 | 317110 | 21982 |
| Jun-94     | 707300 | 140939000 | 1142600 | 632216 | 290716 | 22397 |
| Jul-94     | 706100 | 140894000 | 1151500 | 627266 | 293659 | 22074 |
| Aug-94     | 710400 | 133696000 | 1144000 | 633493 | 314101 | 22432 |
| Sep-94     | 713900 | 136349000 | 1146000 | 636307 | 315094 | 23140 |
| Oct-94     | 714300 | 133057000 | 1147300 | 630634 | 305307 | 23451 |
| Nov-94     | 716800 | 135009000 | 1155300 | 639591 | 315640 | 23115 |
| Dec-94     | 711800 | 151665000 | 1173500 | 643006 | 346635 | 23411 |
| Jan-95     | 710300 | 147333000 | 1158600 | 643713 | 353336 | 25164 |
| Feb-95     | 712500 | 145971000 | 1134300 | 651022 | 353039 | 23334 |
| Mar-95     | 712900 | 148016000 | 1138100 | 667817 | 352053 | 23834 |
| Apr-95     | 715200 | 152917000 | 1158700 | 668178 | 353338 | 24376 |
| May-95     | 723500 | 142830000 | 1132100 | 676489 | 369189 | 26046 |
| Jun-95     | 724900 | 150095000 | 1139200 | 683597 | 364028 | 24683 |
| Jul-95     | 726900 | 147333000 | 1143900 | 690294 | 354108 | 24235 |
| Aug-95     | 734000 | 145971000 | 1137000 | 696378 | 368377 | 24494 |
| Sep-95     | 738700 | 155437000 | 1135700 | 700244 | 367546 | 24658 |
| Oct-95     | 742600 | 150517000 | 1131000 | 701680 | 363126 | 24501 |
| Nov-95     | 748300 | 153011000 | 1136500 | 712827 | 358276 | 24479 |
| Dec-95     | 757600 | 171544000 | 1150700 | 728263 | 388277 | 25350 |
| Jan-96     | 768100 | 156435000 | 1128000 | 741070 | 385070 | 26240 |
| Feb-96     | 780300 | 158342000 | 1103400 | 747573 | 426517 | 26118 |
| Mar-96     | 788100 | 174554000 | 1115500 | 759469 | 422011 | 25927 |
| Apr-96     | 790900 | 172361000 | NA      | 765176 | 411217 | 26492 |
| May-96     | 799100 | 163994000 | NA      | 771850 | 418869 | 26112 |
| Jun-96     | 800500 | 176539000 | NA      | 782042 | 393145 | 26412 |
| Jul-96     | 808800 | 166819000 | NA      | 788689 | 408219 | 26195 |
| Aug-96     | 813800 | 168839100 | NA      | 793838 | 397420 | 26073 |
| Sep-96     | 814900 | 169819400 | NA      | 797116 | 408819 | 26548 |
| Oct-96     | 830800 | 165997700 | NA      | 793140 | 395438 | 26086 |
| Nov-96     | 823300 | 174056700 | NA      | 814012 | 406798 | 26506 |
| Dec-96     | 843100 | 188146600 | NA      | 806460 | 423687 | 27040 |
| Jan-97     | 853100 | 171291000 | NA      | 824057 | 418337 | 28847 |
| Feb-97     | 858900 | 174264000 | NA      | 836582 | 428005 | 27919 |
| Mar-97     | 865500 | 184781000 | NA      | 856835 | 431494 | 28466 |
| Apr-97     | 864200 | 185770000 | NA      | 850613 | 422821 | 27666 |
| May-97     | 873800 | 185278000 | NA      | 867831 | 430203 | 27582 |
| Jun-97     | 872700 | 185975000 | NA      | 868313 | 396390 | 28241 |

ที่มา : วารสาร International Financial Statistics ของทุนการเงินระหว่างประเทศ

## 3) ข้อมูลรายได้ประชาชาติที่แท้จริง proxied by industrial production index

โดยที่

GERGDP = รายได้ประชาชาติที่แท้จริงของประเทศเยอรมนี

JAPGDP = รายได้ประชาชาติที่แท้จริงของประเทศญี่ปุ่น

USAGDP = รายได้ประชาชาติที่แท้จริงของประเทศสหรัฐฯ

ENGGDP = รายได้ประชาชาติที่แท้จริงของประเทศอังกฤษ

THAGDP = รายได้ประชาชาติที่แท้จริงของประเทศไทย

SINGDP = รายได้ประชาชาติที่แท้จริงของประเทศสิงคโปร์

| MONTH-YEAR | GERGDP | JAPGDP | USAGDP | ENGGDP | THAGDP | SINGDP |
|------------|--------|--------|--------|--------|--------|--------|
| Dec-84     | 84.66  | 79.33  | 87.53  | 83.81  | NA     | 59.30  |
| Jan-85     | 83.46  | 80.03  | 87.84  | 85.31  | NA     | 54.20  |
| Feb-85     | 83.72  | 80.03  | 88.59  | 85.31  | NA     | 54.20  |
| Mar-85     | 84.57  | 79.23  | 88.82  | 87.51  | NA     | 54.20  |
| Apr-85     | 84.14  | 80.53  | 88.96  | 88.21  | NA     | 54.80  |
| May-85     | 85.08  | 81.33  | 89.16  | 89.11  | NA     | 54.80  |
| Jun-85     | 86.02  | 80.03  | 88.94  | 91.02  | NA     | 54.80  |
| Jul-85     | 87.21  | 81.13  | 88.56  | 87.51  | NA     | 55.20  |
| Aug-85     | 85.00  | 80.43  | 89.09  | 88.21  | NA     | 55.20  |
| Sep-85     | 85.93  | 79.63  | 89.62  | 89.81  | NA     | 55.20  |
| Oct-85     | 86.87  | 80.53  | 88.85  | 88.01  | NA     | 54.90  |
| Nov-85     | 87.72  | 80.43  | 89.36  | 89.01  | NA     | 54.90  |
| Dec-85     | 85.25  | 80.33  | 89.98  | 86.71  | NA     | 54.90  |
| Jan-86     | 86.78  | 80.33  | 90.55  | 87.81  | NA     | 50.80  |
| Feb-86     | 86.27  | 80.23  | 89.94  | 88.51  | NA     | 50.80  |
| Mar-86     | 86.58  | 80.13  | 89.03  | 89.31  | NA     | 50.80  |
| Apr-86     | 87.72  | 80.13  | 89.64  | 90.42  | NA     | 58.40  |
| May-86     | 86.87  | 80.03  | 89.54  | 89.01  | NA     | 58.40  |
| Jun-86     | 87.47  | 80.43  | 89.14  | 90.22  | NA     | 58.40  |
| Jul-86     | 89.17  | 80.53  | 89.44  | 89.41  | NA     | 63.00  |
| Aug-86     | 87.38  | 78.43  | 89.74  | 89.41  | NA     | 63.00  |
| Sep-86     | 86.96  | 81.13  | 89.64  | 91.72  | NA     | 63.00  |
| Oct-86     | 87.13  | 80.03  | 90.45  | 91.92  | NA     | 65.80  |
| Nov-86     | 88.23  | 78.83  | 90.85  | 91.62  | NA     | 65.80  |
| Dec-86     | 87.21  | 80.93  | 91.76  | 91.92  | NA     | 65.80  |
| Jan-87     | 84.32  | 80.43  | 91.16  | 90.22  | 50.00  | 59.50  |
| Feb-87     | 86.53  | 80.23  | 92.17  | 93.22  | 53.40  | 59.50  |
| Mar-87     | 85.08  | 81.33  | 92.57  | 92.72  | 49.50  | 59.50  |
| Apr-87     | 87.98  | 80.53  | 92.98  | 92.02  | 42.40  | 67.60  |

| MONTH-YEAR | GERGDP | JAPGDP | USAGDP | ENGGDP | THAGDP | SINGDP |
|------------|--------|--------|--------|--------|--------|--------|
| May-87     | 89.08  | 79.23  | 93.38  | 93.62  | 42.60  | 67.60  |
| Jun-87     | 87.55  | 82.23  | 94.19  | 93.22  | 40.90  | 67.60  |
| Jul-87     | 86.87  | 82.93  | 94.69  | 95.02  | 43.10  | 73.00  |
| Aug-87     | 88.83  | 83.23  | 94.80  | 94.62  | 38.60  | 73.00  |
| Sep-87     | 87.64  | 84.54  | 94.69  | 94.02  | 39.80  | 73.00  |
| Oct-87     | 88.74  | 85.84  | 96.01  | 95.22  | 41.10  | 79.30  |
| Nov-87     | 89.08  | 86.24  | 96.31  | 95.12  | 42.50  | 79.30  |
| Dec-87     | 89.25  | 87.14  | 96.92  | 95.92  | 48.30  | 79.30  |
| Jan-88     | 89.08  | 87.74  | 96.92  | 96.82  | 54.60  | 72.30  |
| Feb-88     | 89.68  | 90.34  | 97.22  | 95.72  | 60.90  | 72.30  |
| Mar-88     | 88.15  | 88.54  | 97.32  | 97.22  | 58.30  | 72.30  |
| Apr-88     | 89.60  | 90.84  | 97.83  | 96.42  | 49.80  | 82.30  |
| May-88     | 89.68  | 89.94  | 97.93  | 97.52  | 48.20  | 82.30  |
| Jun-88     | 91.13  | 90.04  | 98.03  | 97.82  | 48.80  | 82.30  |
| Jul-88     | 89.17  | 90.54  | 98.64  | 98.32  | 47.70  | 86.50  |
| Aug-88     | 92.83  | 91.04  | 99.14  | 99.52  | 47.30  | 86.50  |
| Sep-88     | 91.64  | 92.54  | 98.84  | 100.42 | 49.40  | 86.50  |
| Oct-88     | 91.81  | 91.24  | 99.04  | 99.32  | 48.40  | 89.20  |
| Nov-88     | 92.07  | 93.04  | 99.85  | 100.32 | 52.30  | 89.20  |
| Dec-88     | 94.19  | 93.84  | 100.35 | 99.72  | 59.70  | 89.20  |
| Jan-89     | 93.85  | 94.84  | 100.86 | 100.22 | 65.00  | 80.60  |
| Feb-89     | 93.85  | 94.14  | 100.05 | 100.52 | 68.60  | 80.60  |
| Mar-89     | 93.68  | 97.54  | 101.06 | 99.22  | 68.80  | 80.60  |
| Apr-89     | 95.98  | 95.94  | 101.26 | 101.62 | 57.30  | 90.60  |
| May-89     | 91.55  | 95.84  | 100.66 | 99.02  | 57.30  | 90.60  |
| Jun-89     | 95.05  | 97.24  | 100.45 | 99.12  | 58.20  | 90.60  |
| Jul-89     | 95.56  | 95.04  | 99.44  | 99.32  | 55.90  | 94.80  |
| Aug-89     | 95.73  | 96.94  | 99.85  | 101.32 | 58.40  | 94.80  |
| Sep-89     | 96.07  | 96.34  | 99.65  | 100.92 | 55.80  | 94.80  |
| Oct-89     | 96.41  | 95.74  | 99.24  | 100.32 | 56.50  | 98.80  |
| Nov-89     | 96.58  | 96.54  | 99.65  | 101.22 | 58.90  | 98.80  |
| Dec-89     | 97.77  | 97.04  | 100.05 | 101.02 | 63.90  | 98.80  |
| Jan-90     | 98.54  | 96.14  | 99.65  | 99.92  | 69.30  | 90.20  |
| Feb-90     | 98.54  | 97.04  | 100.15 | 99.32  | 73.70  | 90.20  |
| Mar-90     | 99.30  | 98.74  | 100.66 | 100.72 | 73.60  | 90.20  |
| Apr-90     | 96.92  | 98.84  | 100.05 | 101.32 | 62.20  | 98.60  |
| May-90     | 99.65  | 99.54  | 100.45 | 100.72 | 64.10  | 98.60  |
| Jun-90     | 99.13  | 99.74  | 100.35 | 102.32 | 64.20  | 98.60  |
| Jul-90     | 100.41 | 100.74 | 100.35 | 99.92  | 63.70  | 104.60 |
| Aug-90     | 101.09 | 101.44 | 100.56 | 99.92  | 63.40  | 104.60 |
| Sep-90     | 102.20 | 100.74 | 100.66 | 99.42  | 61.50  | 104.60 |
| Oct-90     | 102.37 | 102.74 | 100.15 | 99.32  | 62.40  | 106.60 |
| Nov-90     | 101.77 | 102.14 | 98.74  | 98.82  | 66.40  | 106.60 |

| MONTH-YEAR | GERGDP | JAPGDP | USAGDP | ENGGDP | THAGDP | SINGDP |
|------------|--------|--------|--------|--------|--------|--------|
| Dec-90     | 101.52 | 102.14 | 98.23  | 98.32  | 68.00  | 106.60 |
| Jan-91     | 106.90 | 102.94 | 97.73  | 98.02  | 77.20  | 99.80  |
| Feb-91     | 102.80 | 103.14 | 96.92  | 98.02  | 79.90  | 99.80  |
| Mar-91     | 104.03 | 102.14 | 96.01  | 97.02  | 84.40  | 99.80  |
| Apr-91     | 103.42 | 102.54 | 96.41  | 95.72  | 71.30  | 104.80 |
| May-91     | 101.78 | 103.54 | 97.12  | 96.82  | 71.00  | 104.80 |
| Jun-91     | 104.55 | 100.34 | 98.23  | 97.22  | 67.40  | 104.80 |
| Jul-91     | 103.21 | 102.74 | 98.33  | 96.32  | 72.20  | 108.50 |
| Aug-91     | 101.78 | 101.34 | 98.43  | 95.32  | 68.90  | 108.50 |
| Sep-91     | 101.16 | 101.24 | 99.44  | 95.52  | 66.10  | 108.50 |
| Oct-91     | 102.60 | 100.54 | 99.34  | 96.62  | 66.40  | 108.60 |
| Nov-91     | 103.52 | 101.24 | 99.14  | 96.92  | 70.00  | 108.60 |
| Dec-91     | 102.91 | 99.74  | 98.53  | 96.52  | 74.30  | 108.60 |
| Jan-92     | 104.96 | 98.94  | 98.74  | 96.42  | 84.30  | 99.30  |
| Feb-92     | 105.47 | 98.54  | 99.34  | 97.02  | 87.30  | 99.30  |
| Mar-92     | 104.03 | 97.04  | 100.05 | 96.72  | 89.30  | 99.30  |
| Apr-92     | 103.83 | 96.74  | 100.86 | 97.22  | 76.80  | 105.30 |
| May-92     | 103.01 | 94.34  | 101.06 | 95.22  | 73.60  | 105.30 |
| Jun-92     | 101.47 | 96.44  | 100.76 | 96.22  | 76.30  | 105.30 |
| Jul-92     | 100.96 | 96.14  | 101.36 | 97.12  | 77.80  | 111.50 |
| Aug-92     | 100.45 | 93.14  | 101.06 | 97.02  | 75.30  | 111.50 |
| Sep-92     | 100.55 | 97.04  | 101.57 | 97.72  | 76.40  | 111.50 |
| Oct-92     | 100.04 | 93.84  | 102.27 | 98.62  | 76.00  | 115.90 |
| Nov-92     | 98.70  | 92.54  | 102.88 | 97.32  | 79.40  | 115.90 |
| Dec-92     | 97.99  | 91.94  | 102.88 | 97.22  | 86.50  | 115.90 |
| Jan-93     | 96.65  | 91.54  | 103.49 | 97.32  | 88.10  | 107.70 |
| Feb-93     | 95.12  | 92.74  | 103.89 | 98.72  | 94.60  | 107.70 |
| Mar-93     | 96.04  | 94.84  | 103.99 | 97.92  | 91.10  | 107.70 |
| Apr-93     | 95.22  | 92.84  | 104.40 | 98.02  | 81.70  | 118.20 |
| May-93     | 94.91  | 91.44  | 103.79 | 98.72  | 83.30  | 118.20 |
| Jun-93     | 94.81  | 91.64  | 103.99 | 98.22  | 84.10  | 118.20 |
| Jul-93     | 93.58  | 91.14  | 104.40 | 99.12  | 84.60  | 123.90 |
| Aug-93     | 96.96  | 90.84  | 104.19 | 99.32  | 80.00  | 123.90 |
| Sep-93     | 96.14  | 91.14  | 105.20 | 99.72  | 84.30  | 123.90 |
| Oct-93     | 95.83  | 88.24  | 105.51 | 100.02 | 84.20  | 126.20 |
| Nov-93     | 94.71  | 89.54  | 106.01 | 100.92 | 84.90  | 126.20 |
| Dec-93     | 96.86  | 88.74  | 106.82 | 101.12 | 90.50  | 126.20 |
| Jan-94     | 96.76  | 89.44  | 107.12 | 102.12 | 96.60  | 120.90 |
| Feb-94     | 96.96  | 89.14  | 107.63 | 102.42 | 96.50  | 120.90 |
| Mar-94     | 98.50  | 91.64  | 108.34 | 102.42 | 99.50  | 120.90 |
| Apr-94     | 98.70  | 90.74  | 108.84 | 103.52 | 86.00  | 133.70 |
| May-94     | 98.50  | 90.54  | 109.65 | 104.32 | 86.60  | 133.70 |
| Jun-94     | 99.52  | 92.04  | 110.16 | 104.52 | 90.20  | 133.70 |

| MONTH-YEAR | GERGDP | JAPGDP | USAGDP | ENGGDP | THAGDP | SINGDP |
|------------|--------|--------|--------|--------|--------|--------|
| Jul-94     | 100.04 | 91.14  | 110.76 | 104.32 | 86.50  | 141.40 |
| Aug-94     | 99.63  | 93.64  | 111.07 | 105.92 | 88.00  | 141.40 |
| Sep-94     | 100.45 | 92.54  | 111.27 | 106.32 | 89.20  | 141.40 |
| Oct-94     | 101.68 | 92.94  | 112.08 | 106.12 | 89.50  | 141.70 |
| Nov-94     | 102.09 | 94.94  | 112.99 | 105.42 | 92.60  | 141.70 |
| Dec-94     | 103.83 | 95.04  | 114.10 | 105.62 | 96.30  | 141.70 |
| Jan-95     | 100.24 | 94.44  | 114.70 | 105.72 | 100.90 | 130.90 |
| Feb-95     | 103.32 | 95.74  | 114.60 | 106.22 | 98.90  | 130.90 |
| Mar-95     | 102.19 | 95.74  | 114.81 | 106.62 | 110.80 | 130.90 |
| Apr-95     | 101.68 | 95.74  | 114.81 | 106.12 | 94.90  | 144.60 |
| May-95     | 103.42 | 95.64  | 115.11 | 106.62 | 98.90  | 144.60 |
| Jun-95     | 101.78 | 95.04  | 115.51 | 106.22 | 98.80  | 144.60 |
| Jul-95     | 102.19 | 93.04  | 115.51 | 106.72 | 99.00  | 159.30 |
| Aug-95     | 100.55 | 94.64  | 116.62 | 107.12 | 99.20  | 159.30 |
| Sep-95     | 101.16 | 94.14  | 117.13 | 107.62 | 96.90  | 159.30 |
| Oct-95     | 99.42  | 95.34  | 116.62 | 106.62 | 97.40  | 158.50 |
| Nov-95     | 100.45 | 95.84  | 116.83 | 107.02 | 102.60 | 158.50 |
| Dec-95     | 99.22  | 96.64  | 116.73 | 107.42 | 101.60 | 158.50 |
| Jan-96     | 99.22  | 94.34  | 116.52 | 106.72 | 109.50 | 148.70 |
| Feb-96     | 96.35  | 98.14  | 117.94 | 107.02 | 112.20 | 148.70 |
| Mar-96     | 99.22  | 94.14  | 117.53 | 107.92 | 117.20 | 148.70 |
| Apr-96     | 100.34 | 96.14  | 118.75 | 106.72 | 102.90 | 153.90 |
| May-96     | 101.57 | 97.94  | 119.56 | 108.42 | 105.90 | 153.90 |
| Jun-96     | 101.78 | 94.44  | 120.16 | 107.42 | 102.20 | 153.90 |
| Jul-96     | 102.50 | 98.64  | 120.16 | 108.42 | 105.00 | 153.10 |
| Aug-96     | 102.60 | 97.24  | 120.57 | 107.82 | 109.20 | 153.10 |
| Sep-96     | 102.19 | 98.64  | 120.87 | 108.42 | 108.20 | 153.10 |
| Oct-96     | 101.37 | 100.84 | 120.97 | 108.12 | 111.10 | 156.60 |
| Nov-96     | 101.88 | 99.84  | 121.88 | 108.62 | 110.70 | 156.60 |
| Dec-96     | 102.50 | 99.94  | 122.18 | 109.12 | 109.30 | 156.60 |
| Jan-97     | 100.86 | 105.24 | 122.59 | 109.12 | 116.60 | 142.10 |
| Feb-97     | 102.39 | 101.54 | 123.40 | 108.72 | 115.50 | 142.10 |
| Mar-97     | 103.32 | 101.24 | 123.80 | 108.42 | 127.30 | 142.10 |
| Apr-97     | 103.01 | 100.74 | 124.41 | 109.52 | 110.90 | 158.50 |
| May-97     | 102.09 | 105.24 | 124.61 | 108.62 | 113.70 | 158.50 |
| Jun-97     | 104.65 | 101.84 | 124.81 | 110.32 | 109.00 | 158.50 |

ที่มา : วารสาร International Financial Statistics กองทุนการเงินระหว่างประเทศ

#### 4) ข้อมูลอัตราดอกเบี้ยระยะสั้นของแต่ละประเทศ

โดยที่

GERIN = อัตราดอกเบี้ยระยะสั้นของประเทศเยอรมนี

JAPIN = อัตราดอกเบี้ยระยะสั้นของประเทศญี่ปุ่น

USAIN = อัตราดอกเบี้ยระยะสั้นของสหรัฐอเมริกา

ENGIN = อัตราดอกเบี้ยระยะสั้นของประเทศไทย

THAIN = อัตราดอกเบี้ยระยะสั้นของประเทศไทย

SININ = อัตราดอกเบี้ยระยะสั้นของประเทศสิงคโปร์

| MONTH-YEAR | GERIN | JAPIN | USAIN | ENGIN | THAIN | SININ |
|------------|-------|-------|-------|-------|-------|-------|
| Dec-84     | 4.87  | 3.50  | 8.60  | 7.50  | 13.00 | 6.00  |
| Jan-85     | 4.72  | 3.50  | 8.14  | 12.31 | 13.00 | 5.78  |
| Feb-85     | 4.83  | 3.50  | 8.69  | 12.88 | 13.00 | 5.70  |
| Mar-85     | 4.96  | 3.50  | 9.02  | 13.04 | 13.00 | 5.73  |
| Apr-85     | 4.91  | 3.50  | 8.49  | 12.57 | 13.00 | 5.38  |
| May-85     | 4.82  | 3.50  | 7.92  | 12.27 | 13.00 | 5.15  |
| Jun-85     | 4.74  | 3.50  | 7.44  | 12.10 | 13.00 | 5.03  |
| Jul-85     | 4.56  | 3.50  | 7.64  | 11.21 | 13.00 | 4.63  |
| Aug-85     | 4.08  | 3.50  | 7.81  | 11.05 | 13.00 | 4.38  |
| Sep-85     | 3.88  | 3.50  | 7.93  | 11.05 | 13.00 | 4.38  |
| Oct-85     | 3.88  | 3.50  | 7.88  | 11.01 | 13.00 | 4.60  |
| Nov-85     | 3.94  | 3.50  | 7.81  | 11.01 | 13.00 | 4.58  |
| Dec-85     | 3.95  | 3.50  | 7.80  | 11.01 | 13.00 | 4.58  |
| Jan-86     | 3.86  | 3.50  | 7.82  | 11.59 | 11.00 | 4.55  |
| Feb-86     | 3.76  | 3.00  | 7.69  | 11.68 | 11.00 | 4.55  |
| Mar-86     | 3.58  | 2.50  | 7.24  | 10.90 | 9.50  | 4.45  |
| Apr-86     | 3.49  | 2.50  | 6.60  | 9.61  | 9.50  | 4.43  |
| May-86     | 3.48  | 2.13  | 6.65  | 9.14  | 9.50  | 4.43  |
| Jun-86     | 3.73  | 2.13  | 6.73  | 8.96  | 9.50  | 4.43  |
| Jul-86     | 3.74  | 2.13  | 6.37  | 8.96  | 9.50  | 4.10  |
| Aug-86     | 3.75  | 2.13  | 5.92  | 8.96  | 9.50  | 3.90  |
| Sep-86     | 3.71  | 2.13  | 5.71  | 8.96  | 9.50  | 3.33  |
| Oct-86     | 3.73  | 2.13  | 5.69  | 9.82  | 9.50  | 3.00  |
| Nov-86     | 3.78  | 1.76  | 5.76  | 9.82  | 9.50  | 2.88  |
| Dec-86     | 3.86  | 1.76  | 6.04  | 9.82  | 9.50  | 2.88  |
| Jan-87     | 3.74  | 1.76  | 5.87  | 9.82  | 9.50  | 2.88  |
| Feb-87     | 3.34  | 1.76  | 6.10  | 9.82  | 9.50  | 2.88  |
| Mar-87     | 3.26  | 1.76  | 6.17  | 9.01  | 9.50  | 2.85  |



| MONTH-YEAR | GERIN | JAPIN | USAIN | ENGIN | THAIN | SININ |
|------------|-------|-------|-------|-------|-------|-------|
| Apr-87     | 3.21  | 1.76  | 6.52  | 8.64  | 9.50  | 2.85  |
| May-87     | 3.10  | 1.76  | 6.99  | 7.88  | 9.50  | 2.85  |
| Jun-87     | 3.03  | 1.76  | 6.94  | 7.88  | 9.50  | 2.88  |
| Jul-87     | 3.03  | 1.76  | 6.70  | 7.88  | 9.50  | 2.88  |
| Aug-87     | 3.09  | 1.76  | 6.75  | 8.97  | 9.50  | 2.88  |
| Sep-87     | 3.12  | 1.76  | 7.37  | 8.97  | 9.50  | 2.93  |
| Oct-87     | 3.31  | 1.76  | 8.02  | 8.43  | 9.50  | 2.98  |
| Nov-87     | 3.19  | 1.76  | 7.24  | 8.09  | 9.50  | 2.95  |
| Dec-87     | 3.03  | 1.76  | 7.66  | 7.44  | 9.50  | 2.90  |
| Jan-88     | 2.85  | 1.76  | 6.92  | 7.44  | 9.50  | 2.66  |
| Feb-88     | 2.77  | 1.76  | 6.60  | 7.88  | 9.50  | 2.61  |
| Mar-88     | 2.73  | 1.76  | 6.63  | 7.34  | 9.50  | 2.58  |
| Apr-88     | 2.73  | 1.76  | 6.92  | 6.79  | 9.50  | 2.58  |
| May-88     | 2.77  | 1.76  | 7.24  | 6.26  | 9.50  | 2.58  |
| Jun-88     | 2.85  | 1.76  | 7.51  | 7.11  | 9.50  | 2.60  |
| Jul-88     | 3.31  | 1.76  | 7.94  | 8.60  | 9.50  | 2.70  |
| Aug-88     | 3.72  | 1.76  | 8.35  | 9.32  | 9.50  | 2.88  |
| Sep-88     | 3.82  | 1.76  | 8.23  | 10.21 | 9.50  | 2.88  |
| Oct-88     | 3.88  | 1.76  | 8.36  | 10.21 | 9.50  | 2.88  |
| Nov-88     | 3.89  | 1.76  | 8.78  | 10.21 | 9.50  | 2.95  |
| Dec-88     | 4.14  | 1.76  | 9.25  | 11.18 | 9.50  | 2.95  |
| Jan-89     | 4.25  | 1.76  | 9.20  | 11.20 | 9.50  | 2.99  |
| Feb-89     | 4.61  | 1.76  | 9.51  | 11.20 | 9.50  | 3.03  |
| Mar-89     | 4.96  | 1.76  | 10.09 | 11.20 | 9.50  | 3.05  |
| Apr-89     | 4.99  | 1.76  | 9.94  | 11.15 | 9.50  | 3.18  |
| May-89     | 5.22  | 1.76  | 9.59  | 11.15 | 9.50  | 3.25  |
| Jun-89     | 5.39  | 2.04  | 9.20  | 11.45 | 9.50  | 3.28  |
| Jul-89     | 5.62  | 2.04  | 8.76  | 11.45 | 9.50  | 3.28  |
| Aug-89     | 5.66  | 2.04  | 8.64  | 11.45 | 9.50  | 3.28  |
| Sep-89     | 5.76  | 2.04  | 8.78  | 11.45 | 9.50  | 3.28  |
| Oct-89     | 6.30  | 2.04  | 8.60  | 11.74 | 9.50  | 3.28  |
| Nov-89     | 6.57  | 2.32  | 8.42  | 12.31 | 9.50  | 3.30  |
| Dec-89     | 6.68  | 2.32  | 8.39  | 12.31 | 9.50  | 3.35  |
| Jan-90     | 6.76  | 2.75  | 8.22  | 12.31 | 9.50  | 3.55  |
| Feb-90     | 6.82  | 2.75  | 8.24  | 12.31 | 9.50  | 3.83  |
| Mar-90     | 6.99  | 2.75  | 8.37  | 12.51 | 11.00 | 3.93  |
| Apr-90     | 6.94  | 3.63  | 8.42  | 12.51 | 11.50 | 4.45  |
| May-90     | 7.00  | 3.63  | 8.35  | 12.95 | 11.50 | 4.50  |
| Jun-90     | 7.00  | 3.63  | 8.23  | 12.95 | 11.50 | 4.95  |
| Jul-90     | 7.03  | 3.63  | 8.09  | 12.95 | 12.50 | 5.08  |
| Aug-90     | 7.08  | 3.63  | 7.97  | 12.95 | 12.50 | 5.18  |
| Sep-90     | 7.13  | 4.08  | 8.06  | 12.95 | 13.50 | 5.20  |
| Oct-90     | 7.22  | 4.08  | 8.06  | 12.16 | 14.00 | 5.20  |

| MONTH-YEAR | GERIN | JAPIN | USAIN | ENGIN | THAIN | SININ |
|------------|-------|-------|-------|-------|-------|-------|
| Nov-90     | 7.32  | 4.08  | 8.03  | 11.99 | 14.50 | 5.14  |
| Dec-90     | 7.53  | 4.08  | 7.82  | 11.99 | 15.50 | 5.05  |
| Jan-91     | 7.50  | 4.08  | 7.17  | 12.60 | 15.50 | 4.55  |
| Feb-91     | 7.44  | 4.08  | 6.52  | 11.95 | 15.00 | 4.55  |
| Mar-91     | 7.47  | 4.08  | 6.45  | 10.98 | 14.50 | 4.52  |
| Apr-91     | 7.50  | 4.08  | 6.06  | 10.73 | 13.50 | 4.52  |
| May-91     | 7.49  | 4.08  | 5.91  | 10.30 | 13.50 | 4.53  |
| Jun-91     | 7.51  | 4.08  | 6.07  | 10.20 | 14.50 | 4.89  |
| Jul-91     | 7.56  | 3.75  | 5.98  | 9.78  | 15.00 | 4.96  |
| Aug-91     | 7.67  | 3.75  | 5.65  | 9.78  | 15.50 | 4.93  |
| Sep-91     | 7.74  | 3.75  | 5.47  | 9.26  | 12.50 | 4.88  |
| Oct-91     | 7.79  | 3.75  | 5.33  | 9.26  | 11.50 | 4.71  |
| Nov-91     | 7.86  | 5.08  | 4.94  | 9.26  | 11.50 | 4.68  |
| Dec-91     | 7.95  | 5.07  | 4.47  | 9.26  | 11.50 | 3.84  |
| Jan-92     | 8.03  | 4.37  | 4.05  | 9.24  | 10.00 | 3.44  |
| Feb-92     | 8.00  | 3.96  | 4.07  | 8.73  | 10.00 | 3.08  |
| Mar-92     | 8.05  | 3.99  | 4.25  | 8.53  | 9.00  | 3.08  |
| Apr-92     | 8.07  | 3.64  | 4.00  | 8.53  | 7.50  | 3.08  |
| May-92     | 8.12  | 3.53  | 3.82  | 8.09  | 7.50  | 3.08  |
| Jun-92     | 8.13  | 3.58  | 3.86  | 8.04  | 8.00  | 3.03  |
| Jul-92     | 8.19  | 3.47  | 3.37  | 8.04  | 9.00  | 2.81  |
| Aug-92     | 8.29  | 2.99  | 3.31  | 7.69  | 9.00  | 2.77  |
| Sep-92     | 8.18  | 2.71  | 3.13  | 6.99  | 9.00  | 2.56  |
| Oct-92     | 7.74  | 2.67  | 3.26  | 5.84  | 9.00  | 2.46  |
| Nov-92     | 7.62  | 2.65  | 3.58  | 4.90  | 9.00  | 2.46  |
| Dec-92     | 7.65  | 2.67  | 3.48  | 4.92  | 9.50  | 2.46  |
| Jan-93     | 7.40  | 2.64  | 3.19  | 4.38  | 9.50  | 2.46  |
| Feb-93     | 7.09  | 2.48  | 3.12  | 4.00  | 9.50  | 2.46  |
| Mar-93     | 6.95  | 2.26  | 3.11  | 4.00  | 9.50  | 2.28  |
| Apr-93     | 6.85  | 2.23  | 3.09  | 4.00  | 9.50  | 2.27  |
| May-93     | 6.57  | 2.18  | 3.10  | 4.00  | 9.50  | 2.27  |
| Jun-93     | 6.53  | 2.18  | 3.21  | 4.00  | 9.50  | 2.27  |
| Jul-93     | 6.33  | 2.19  | 3.16  | 4.00  | 9.50  | 2.27  |
| Aug-93     | 5.80  | 2.16  | 3.14  | 4.00  | 7.50  | 2.27  |
| Sep-93     | 5.62  | 2.03  | 3.12  | 4.00  | 7.50  | 2.28  |
| Oct-93     | 5.58  | 1.96  | 3.24  | 3.95  | 7.50  | 2.26  |
| Nov-93     | 5.35  | 1.73  | 3.35  | 3.68  | 7.50  | 2.26  |
| Dec-93     | 5.19  | 1.69  | 3.26  | 3.63  | 7.00  | 2.26  |
| Jan-94     | 5.04  | 1.70  | 3.15  | 3.63  | 6.50  | 2.50  |
| Feb-94     | 4.93  | 1.70  | 3.43  | 3.51  | 6.50  | 2.67  |
| Mar-94     | 4.93  | 1.70  | 3.77  | 3.63  | 7.00  | 2.67  |
| Apr-94     | 4.76  | 1.69  | 4.01  | 3.55  | 7.00  | 2.82  |
| May-94     | 4.46  | 1.70  | 4.51  | 3.55  | 8.50  | 2.90  |

| MONTH-YEAR | GERIN | JAPIN | USAIN | ENGIN | THAIN | SININ |
|------------|-------|-------|-------|-------|-------|-------|
| Jun-94     | 4.25  | 1.69  | 4.52  | 3.55  | 8.50  | 2.90  |
| Jul-94     | 4.16  | 1.70  | 4.73  | 3.55  | 9.00  | 2.90  |
| Aug-94     | 4.14  | 1.70  | 4.81  | 3.55  | 9.50  | 3.14  |
| Sep-94     | 4.16  | 1.70  | 5.03  | 3.65  | 9.50  | 3.14  |
| Oct-94     | 4.19  | 1.70  | 5.51  | 3.87  | 9.50  | 3.14  |
| Nov-94     | 4.22  | 1.70  | 5.79  | 3.92  | 10.00 | 3.62  |
| Dec-94     | 4.41  | 1.72  | 6.29  | 3.92  | 10.00 | 3.62  |
| Jan-95     | 4.31  | 1.71  | 6.24  | 3.92  | 10.00 | 3.62  |
| Feb-95     | 4.21  | 1.70  | 6.16  | 4.26  | 10.50 | 3.62  |
| Mar-95     | 4.24  | 1.68  | 6.15  | 4.26  | 11.50 | 3.62  |
| Apr-95     | 3.97  | 1.24  | 6.11  | 4.26  | 11.00 | 3.62  |
| May-95     | 3.91  | 1.03  | 6.02  | 4.26  | 12.00 | 3.62  |
| Jun-95     | 3.85  | 0.95  | 5.90  | 4.20  | 12.00 | 3.45  |
| Jul-95     | 3.86  | 0.68  | 5.77  | 4.22  | 12.00 | 3.45  |
| Aug-95     | 3.84  | 0.53  | 5.77  | 4.16  | 12.00 | 3.41  |
| Sep-95     | 3.60  | 0.38  | 5.73  | 4.16  | 12.00 | 3.41  |
| Oct-95     | 3.54  | 0.30  | 5.79  | 3.87  | 12.00 | 3.41  |
| Nov-95     | 3.48  | 0.32  | 5.74  | 3.87  | 12.00 | 3.41  |
| Dec-95     | 3.41  | 0.31  | 5.62  | 3.87  | 12.00 | 3.41  |
| Jan-96     | 3.22  | 0.31  | 5.39  | 3.50  | 12.00 | 3.41  |
| Feb-96     | 2.93  | 0.31  | 5.15  | 3.38  | 11.00 | 3.41  |
| Mar-96     | 2.91  | 0.31  | 5.29  | 3.25  | 11.00 | 3.41  |
| Apr-96     | 2.88  | 0.30  | 5.36  | 3.13  | 11.00 | 3.41  |
| May-96     | 2.83  | 0.30  | 5.36  | 3.07  | 10.00 | 3.41  |
| Jun-96     | 2.83  | 0.30  | 5.46  | 3.02  | 10.00 | 3.41  |
| Jul-96     | 2.84  | 0.30  | 5.53  | 2.94  | 10.00 | 3.41  |
| Aug-96     | 2.84  | 0.30  | 5.40  | 2.86  | 10.00 | 3.41  |
| Sep-96     | 2.70  | 0.30  | 5.51  | 2.86  | 10.00 | 3.41  |
| Oct-96     | 2.66  | 0.29  | 5.41  | 2.83  | 10.00 | 3.41  |
| Nov-96     | 2.64  | 0.29  | 5.38  | 2.83  | 10.00 | 3.41  |
| Dec-96     | 2.70  | 0.30  | 5.44  | 2.87  | 9.00  | 3.41  |
| Jan-97     | 2.66  | 0.30  | 5.43  | 2.95  | 9.00  | 3.41  |
| Feb-97     | 2.60  | 0.30  | 5.37  | 2.99  | 9.00  | 3.41  |
| Mar-97     | 2.64  | 0.30  | 5.53  | 2.99  | 9.00  | 3.41  |
| Apr-97     | 2.65  | 0.33  | 5.71  | 2.97  | 9.00  | 3.41  |
| May-97     | 2.65  | 0.32  | 5.70  | 2.97  | 9.00  | 3.41  |
| Jun-97     | 2.63  | 0.31  | 5.66  | 3.24  | 8.75  | 3.41  |

ที่มา : วารสาร International Financial Statistics กองทุนการเงินระหว่างประเทศ

5) ข้อมูลอัตราเงินเฟ้อในระยะยาวที่คาดการณ์ proxied by average CPI inflation over preceding year

โดยที่

GERE = อัตราเงินเฟ้อในระยะยาวที่คาดการณ์ของประเทศเยอรมนี

JAPE = อัตราเงินเฟ้อในระยะยาวที่คาดการณ์ของประเทศญี่ปุ่น

USAE = อัตราเงินเฟ้อในระยะยาวที่คาดการณ์ของประเทศสหรัฐฯ

ENGE = อัตราเงินเฟ้อในระยะยาวที่คาดการณ์ของประเทศอังกฤษ

THAE = อัตราเงินเฟ้อในระยะยาวที่คาดการณ์ของประเทศไทย

SINE = อัตราเงินเฟ้อในระยะยาวที่คาดการณ์ของประเทศสิงคโปร์

| MONTH-YEAR | GERE         | JAPE        | USAE        | ENGE        | THAE        | SINE         |
|------------|--------------|-------------|-------------|-------------|-------------|--------------|
| Dec-84     | 0.279776179  | 0.160984848 | 0.259359495 | 0.388198758 | 0.313445741 | 0.101965146  |
| Jan-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Feb-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Mar-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Apr-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| May-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Jun-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Jul-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Aug-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Sep-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Oct-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Nov-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Dec-85     | 0.193348801  | 0.185804534 | 0.360892388 | 0.408011869 | 0.072916667 | 0.219780220  |
| Jan-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Feb-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Mar-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Apr-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| May-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Jun-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Jul-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Aug-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Sep-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Oct-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Nov-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Dec-86     | 0.188964475  | 0.163576881 | 0.303983229 | 0.506836398 | 0.206526229 | 0.035688794  |
| Jan-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Feb-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |

| MONTH-YEAR | GERE         | JAPE        | USAE        | ENGE        | THAE        | SINE         |
|------------|--------------|-------------|-------------|-------------|-------------|--------------|
| Mar-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Apr-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| May-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Jun-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Jul-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Aug-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Sep-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Oct-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Nov-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Dec-87     | -0.009238729 | 0.053475936 | 0.151699029 | 0.288888889 | 0.151148730 | -0.115493959 |
| Jan-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Feb-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Mar-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Apr-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| May-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Jun-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Jul-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Aug-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Sep-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Oct-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Nov-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Dec-88     | 0.018497965  | 0.008855827 | 0.307906238 | 0.343642612 | 0.207838480 | 0.045045045  |
| Jan-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Feb-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Mar-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Apr-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| May-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Jun-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Jul-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Aug-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Sep-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Oct-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Nov-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Dec-89     | 0.101513474  | 0.061924982 | 0.335249042 | 0.402227723 | 0.318655852 | 0.125448029  |
| Jan-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| Feb-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| Mar-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| Apr-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| May-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| Jun-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| Jul-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| Aug-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |
| Sep-90     | 0.237053246  | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723  |

| MONTH-YEAR | GERE        | JAPE        | USAE        | ENGE        | THAE        | SINE        |
|------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Oct-90     | 0.237053246 | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723 |
| Nov-90     | 0.237053246 | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723 |
| Dec-90     | 0.237053246 | 0.184404636 | 0.405156538 | 0.649350649 | 0.446428571 | 0.203036723 |
| Jan-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Feb-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Mar-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Apr-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| May-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Jun-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Jul-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Aug-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Sep-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Oct-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Nov-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Dec-91     | 0.221631206 | 0.257731959 | 0.447839831 | 0.794085433 | 0.494350282 | 0.284384695 |
| Jan-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Feb-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Mar-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Apr-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| May-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Jun-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Jul-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Aug-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Sep-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Oct-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Nov-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Dec-92     | 0.302245250 | 0.275000000 | 0.350000000 | 0.491666667 | 0.475000000 | 0.283333333 |
| Jan-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Feb-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Mar-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Apr-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| May-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Jun-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Jul-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Aug-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Sep-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Oct-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Nov-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Dec-93     | 0.425000000 | 0.145208132 | 0.255918106 | 0.306893296 | 0.339009776 | 0.193423598 |
| Jan-94     | 0.364732001 | 0.103076435 | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Feb-94     | 0.364732001 | 0.103076435 | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Mar-94     | 0.364732001 | 0.103076435 | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Apr-94     | 0.364732001 | 0.103076435 | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |

| MONTH-YEAR | GERE        | JAPE         | USAE        | ENGE        | THAE        | SINE        |
|------------|-------------|--------------|-------------|-------------|-------------|-------------|
| May-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Jun-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Jul-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Aug-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Sep-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Oct-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Nov-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Dec-94     | 0.364732001 | 0.103076435  | 0.248292986 | 0.129022465 | 0.280303030 | 0.189035917 |
| Jan-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Feb-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Mar-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Apr-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| May-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Jun-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Jul-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Aug-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Sep-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Oct-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Nov-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Dec-95     | 0.227894257 | 0.054824561  | 0.210970464 | 0.209267564 | 0.425095280 | 0.254158965 |
| Jan-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Feb-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Mar-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Apr-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| May-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Jun-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Jul-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Aug-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Sep-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Oct-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Nov-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Dec-96     | 0.155279503 | -0.007780890 | 0.235155791 | 0.284339458 | 0.481171548 | 0.149476831 |
| Jan-97     | 0.123403020 | 0.015576324  | 0.242995998 | 0.204455725 | 0.487869198 | 0.110132159 |
| Feb-97     | 0.123403020 | 0.015576324  | 0.242995998 | 0.204455725 | 0.487869198 | 0.110132159 |
| Mar-97     | 0.123403020 | 0.015576324  | 0.242995998 | 0.204455725 | 0.487869198 | 0.110132159 |
| Apr-97     | 0.123403020 | 0.015576324  | 0.242995998 | 0.204455725 | 0.487869198 | 0.110132159 |
| May-97     | 0.123403020 | 0.015576324  | 0.242995998 | 0.204455725 | 0.487869198 | 0.110132159 |
| Jun-97     | 0.123403020 | 0.015576324  | 0.242995998 | 0.204455725 | 0.487869198 | 0.110132159 |

ที่มา : จำนวนจากวารสาร International Financial Statistics กองทุนการเงินระหว่างประเทศ

**ประวัติผู้เขียน**

|                          |  |
|--------------------------|--|
| <b>ชื่อ</b>              | นายเถลิงศักดิ์ นุชประหาร   |
| <b>วัน เดือน ปี เกิด</b> | 18 กรกฎาคม 2515  |
| <b>ประวัติการศึกษา</b>   | สำเร็จการศึกษาปริญญาวิทยาศาสตรบัณฑิต สาขาวิชารัฐประศาสนศาสตร์ มหาวิทยาลัยเชียงใหม่ ปีการศึกษา 2536 |