## Présentation des données

### I.1 Recettes fiscales (en millions de CDF)

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Années | *Droits de sortie* | *Droits d'entrée* | *Divers* | **1. Impôts sur le Commerce ext.** | *Revenus des personnes physiques* | *Revenus des sociétés et entr.* | *Amendes et acroiss.* | **2. Impôts sur les Revenus** | **3. Impôts sur les B&S** | **4. Autres recettes fiscales** | **Total Recettes fiscales / (1+2+3+4)** |
| 1998 | 9,1 | 191,7 | 0,0 | 200,8 | 55,2 | 121,5 |  | 176,7 | 104,2 | 52,7 | 534,4 |
| 1999 | 22,9 | 513,0 | 0,1 | 536,0 | 272,7 | 135,2 |  | 407,9 | 379,2 | 471,0 | 1 794,2 |
| 2000 | 114,9 | 2 406,1 | 18,8 | 2 539,8 | 845,8 | 921,6 |  | 1 767,4 | 2 446,3 | 3 515,7 | 10 269,3 |
| 2001 | 635,6 | 21 111,2 | 2,9 | 21 749,7 | 5 611,4 | 10 738,8 |  | 16 350,2 | 14 451,2 | 8 739,2 | 61 290,4 |
| 2002 | 3 848,1 | 38 858,9 | 0,3 | 42 707,3 | 13 014,6 | 15 114,4 |  | 28 129,0 | 31 741,5 | 25 408,5 | 127 986,4 |
| 2003 | 5 119,6 | 48 411,5 | 17,8 | 53 548,9 | 17 456,9 | 16 943,6 |  | 34 400,5 | 52 148,9 | 6 287,9 | 146 386,1 |
| 2004 | 6 325,2 | 77 464,1 | 28,3 | 83 817,7 | 20 988,4 | 32 087,4 |  | 53 075,8 | 72 071,2 | 8 098,9 | 217 063,6 |
| 2005 | 9 039,0 | 110 407,8 | 107,3 | 119 554,0 | 28 296,1 | 26 465,4 |  | 54 761,4 | 107 218,1 | 54 167,2 | 335 700,8 |
| 2006 | 9 630,5 | 154 045,2 | 128,9 | 163 804,6 | 49 694,3 | 79 076,3 |  | 128 770,6 | 146 300,9 | 23 221,6 | 462 097,8 |
| 2007 | 8 679,1 | 230 595,8 | 58,1 | 239 332,9 | 71 933,5 | 89 407,6 |  | 161 341,1 | 129 774,0 | 11 267,8 | 541 715,9 |
| 2008 | 12 496,3 | 360 177,4 | 69,6 | 372 743,3 | 131 234,0 | 162 550,4 |  | 293 784,3 | 312 967,3 | 12 748,3 | 992 243,2 |
| 2009 | 11 832,4 | 428 144,6 | 333,7 | 440 310,7 | 169 903,9 | 160 510,1 | 0,0 | 330 414,0 | 406 884,9 | 14 201,9 | 1 191 811,5 |
| 2010 | 13 437,8 | 562 412,4 | 281,4 | 576 131,6 | 231 952,2 | 247 347,9 | 0,0 | 479 300,1 | 558 984,2 | 16 980,7 | 1 631 396,6 |
| 2011 | 19 529,2 | 779 343,3 | 497,2 | 799 369,7 | 302 001,2 | 278 566,8 | 14 737,4 | 595 305,4 | 693 090,9 | 20 236,6 | 2 108 002,6 |
| 2012 | 17 652,3 | 1 057 177,7 | 0,0 | 1 074 830,0 | 432 323,0 | 250 751,1 | 25 695,7 | 708 769,8 | 882 143,3 | 44 596,6 | 2 710 339,7 |
| 2013 | 16 696,0 | 1 374 373,6 | 0,0 | 1 391 069,6 | 525 699,9 | 305 665,6 | 30 848,4 | 862 213,9 | 1 026 077,1 | 109 267,8 | 3 388 628,4 |
| 2014 | 16 873,4 | 1 432 849,1 | 0,0 | 1 449 722,5 | 582 680,4 | 491 190,6 | 28 184,6 | 1 102 055,6 | 1 012 073,5 | 51 619,1 | 3 615 470,7 |
| 2015 | 10 161,2 | 1 442 592,0 | 0,0 | 1 452 753,2 | 568 227,9 | 681 733,6 | 0,0 | 1 249 961,5 | 1 097 215,1 | 50 362,8 | 3 850 292,6 |
| 2016 | 8 700,7 | 982 275,8 | 0,0 | 990 976,5 | 562 374,4 | 424 749,3 | 0,0 | 987 123,7 | 1 106 568,1 | 43 852,2 | 3 128 520,5 |
| 2017 | 12 758,3 | 951 157,4 | 0,0 | 963 915,7 | 799 422,1 | 634 494,9 | 0,0 | 1 433 917,0 | 1 199 688,8 | 59 233,6 | 3 656 755,1 |
| 2018 | 15 745,1 | 1 336 435,0 | 0,0 | 1 352 180,1 | 1 083 552,4 | 1 510 793,5 | 0,0 | 2 594 345,9 | 1 561 411,7 | 1. 00,8 | 1. 599 638,5 |

### I.2 Recettes publiques (en millions de CDF)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Années | Recettes fiscales  (a) | Recettes non fiscales  (b) | Recettes exceptionnelles  (c) | Recettes publiques  (a+b+c) |
| 1998 | 534,4 | 69,9 |  | 604,3 |
| 1999 | 1 794,2 | 802,0 |  | 2 596,2 |
| 2000 | 10 269,3 | 823,5 |  | 11 092,7 |
| 2001 | 61 290,4 | 5 224,2 |  | 66 514,5 |
| 2002 | 127 986,4 | 19 672,0 |  | 147 658,4 |
| 2003 | 146 386,1 | 25 527,7 | 49 386,1 | 221 299,9 |
| 2004 | 217 063,6 | 35 085,8 | 53 875,5 | 306 024,9 |
| 2005 | 335 700,8 | 56 787,8 | 102 773,1 | 495 261,7 |
| 2006 | 462 097,8 | 65 787,7 | 141 278,4 | 669 163,9 |
| 2007 | 541 715,9 | 156 567,6 | 32 477,0 | 730 760,5 |
| 2008 | 992 243,2 | 214 090,0 | 65 172,0 | 1 271 505,2 |
| 2009 | 1 191 811,5 | 400 190,4 | 512 720,3 | 2 104 722,2 |
| 2010 | 1 631 396,6 | 535 092,5 | 127 392,9 | 2 293 882,0 |
| 2011 | 2 108 002,6 | 647 338,5 | 44 314,0 | 2 799 655,1 |
| 2012 | 2 710 339,7 | 923 381,3 | 128 657,0 | 3 762 378,0 |
| 2013 | 3 388 628,4 | 664 885,7 | 68 090,0 | 4 121 604,1 |
| 2014 | 3 615 470,7 | 732 025,8 | 15 135,0 | 4 362 631,5 |
| 2015 | 3 850 292,6 | 565 251,6 | 23 251,0 | 4 438 795,2 |
| 2016 | 3 128 520,5 | 526 636,5 | 1 397,0 | 3 656 554,0 |
| 2017 | 3 656 755,1 | 895 647,0 | 783 840,0 | 5 336 242,1 |
| 2018 | 5 599 638,5 | 1 486 947,6 | 850 538,0 | 7 937 124,1 |

### I.4 Calcul des taux de réalisation des recettes et de pression fiscale

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Années | Recettes publiques *(réalisations)* | Recettes publiques *(prévisions)* | ***Taux de réalisation*** | Recettes fiscales *(réalisations)* | Recettes fiscales *(prévisions)* | ***Taux de réalisation*** | Recettes fiscales | PIB à prix courants | ***Taux de pression fiscale*** |
| 1998 | 604,3 | 885,1 | 68,3 | 534,4 | 716,1 | 74,6 | 534,4 | 16 620,2 | 3,2 |
| 1999 | 2 596,2 | 1 979,6 | 131,1 | 1 794,2 | 1 508,3 | 119,0 | 1 794,2 | 86 223,5 | 2,1 |
| 2000 | 11 092,7 | 18 475,3 | 60,0 | 10 269,3 | 13 893,5 | 73,9 | 10 269,3 | 494 251,8 | 2,1 |
| 2001 | 66 514,5 | 54 322,1 | 122,4 | 61 290,4 | 53 368,1 | 114,8 | 61 290,4 | 2 341 846,2 | 2,6 |
| 2002 | 147 658,4 | 170 075,4 | 86,8 | 127 986,4 | 118 335,0 | 108,2 | 127 986,4 | 3 198 119,3 | 4,0 |
| 2003 | 221 299,9 | 292 085,5 | 75,8 | 146 386,1 | 144 690,0 | 101,2 | 146 386,1 | 3 824 458,7 | 3,8 |
| 2004 | 306 024,9 | 494 308,7 | 61,9 | 217 063,6 | 200 575,3 | 108,2 | 217 063,6 | 4 327 493,6 | 5,0 |
| 2005 | 495 261,7 | 750 406,1 | 66,0 | 335 700,8 | 274 449,1 | 122,3 | 335 700,8 | 5 670 065,0 | 5,9 |
| 2006 | 669 163,9 | 900 935,4 | 74,3 | 462 097,8 | 348 972,4 | 132,4 | 462 097,8 | 6 767 519,5 | 6,8 |
| 2007 | 730 760,5 | 1 127 855,6 | 64,8 | 541 715,9 | 568 526,9 | 95,3 | 541 715,9 | 8 648 878,5 | 6,3 |
| 2008 | 1 271 505,2 | 1 674 421,4 | 75,9 | 992 243,2 | 832 432,1 | 119,2 | 992 243,2 | 11 067 568,5 | 9,0 |
| 2009 | 2 104 722,2 | 2 629 307,5 | 80,0 | 1 191 811,5 | 1 225 330,9 | 97,3 | 1 191 811,5 | 15 101 187,9 | 7,9 |
| 2010 | 2 293 882,0 | 5 300 391,5 | 43,3 | 1 631 396,6 | 1 798 328,3 | 90,7 | 1 631 396,6 | 19 536 676,9 | 8,4 |
| 2011 | 2 799 655,1 | 6 296 598,0 | 44,5 | 2 108 002,6 | 2 340 472,1 | 90,1 | 2 108 002,6 | 23 759 424,6 | 8,9 |
| 2012 | 3 762 378,0 | 6 609 169,2 | 56,9 | 2 710 339,7 | 3 112 754,7 | 87,1 | 2 710 339,7 | 26 954 556,9 | 10,1 |
| 2013 | 4 121 604,1 | 6 434 664,6 | 64,1 | 3 388 628,4 | 3 387 368,3 | 100,0 | 3 388 628,4 | 30 051 179,4 | 11,3 |
| 2014 | 4 362 631,5 | 7 449 004,2 | 58,6 | 3 615 470,7 | 4 584 763,7 | 78,9 | 3 615 470,7 | 33 223 988,5 | 10,9 |
| 2015 | 4 438 795,2 | 7 586 218,9 | 58,5 | 3 850 292,6 | 5 138 612,9 | 74,9 | 3 850 292,6 | 35 111 226,0 | 11,0 |
| 2016 | 3 656 554,0 | 5 497 471,8 | 66,5 | 3 128 520,5 | 3 633 913,2 | 86,1 | 3 128 520,5 | 37 517 392,4 | 8,3 |
| 2017 | 5 336 242,1 | 10 223 303,5 | 52,2 | 3 656 755,1 | 5 333 068,8 | 68,6 | 3 656 755,1 | 55 676 093,1 | 6,6 |
| 2018 | 7 937 124,1 | 8 927 875,0 | 88,9 | 5 599 638,5 | 5 360 271,3 | 104,5 | 5 599 638,5 | 76 689 272,0 | 7,3 |

### I.5 Structure de données (en millions de CDF) pour les estimations

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Année* | *PIB réel au prix de 2005* | *Recettes fiscales* | *Impôts sur le commerce extérieur* | *Impôts sur les revenus* | *Impôts sur les biens et services* | *Dépenses publiques* | *Taux d’inflation* | *Crédit intérieur en % du PIB* |
| 1998 | 5164264,5 | 534,4 | 200,8 | 176,7 | 104,2 | 904,5 | 134,8 |  |
| 1999 | 4943744,8 | 1794,2 | 536,0 | 407,9 | 379,2 | 6057,4 | 483,7 |  |
| 2000 | 4602626,4 | 10269,3 | 2539,8 | 1767,4 | 2446,3 | 29405,0 | 511,2 | 0,776 |
| 2001 | 4505970,9 | 61290,4 | 21749,7 | 16350,2 | 14451,2 | 149248,3 | 135,1 | 0,544 |
| 2002 | 4662260 | 127986,4 | 42707,3 | 28129,0 | 31741,5 | 279593,1 | 15,8 | 0,491 |
| 2003 | 4932264,5 | 146386,1 | 53548,9 | 34400,5 | 52148,9 | 456444,5 | 4,4 | 0,796 |
| 2004 | 5259764,4 | 217063,6 | 83817,7 | 53075,8 | 72071,2 | 565527,3 | 9 | 1,095 |
| 2005 | 5670065 | 335700,8 | 119554,0 | 54761,4 | 107218,1 | 1168931,5 | 21,5 | 1,201 |
| 2006 | 5971768 | 462097,8 | 163804,6 | 128770,6 | 146300,9 | 1250933,0 | 18,2 | 2,083 |
| 2007 | 6345569,5 | 541715,9 | 239332,9 | 161341,1 | 129774,0 | 1579025,5 | 9,9 | 2,647 |
| 2008 | 6740637,9 | 992243,2 | 372743,3 | 293784,3 | 312967,3 | 2134609,4 | 27,6 | 4,989 |
| 2009 | 6933087,5 | 1191811,5 | 440310,7 | 330414 | 406884,9 | 3089284,6 | 53,4 | 5,300 |
| 2010 | 7425889,7 | 1631396,6 | 576131,6 | 479300,1 | 558984,2 | 2537526,4 | 9,8 | 3,724 |
| 2011 | 7936395,2 | 2108002,6 | 799369,7 | 595305,4 | 693090,9 | 4145516,8 | 15,4 | 4,023 |
| 2012 | 8498839,5 | 2710339,7 | 1074830 | 708769,8 | 882143,3 | 4940888,0 | 2,7 | 4,811 |
| 2013 | 9219707,4 | 3388628,4 | 1391069,6 | 862213,9 | 1026077,1 | 5460203,6 | 1,07 | 5,247 |
| 2014 | 10092840,2 | 3615470,7 | 1449722,5 | 1102055,6 | 1012073,5 | 5791807,4 | 1,03 | 5,718 |
| 2015 | 10790880 | 3850292,6 | 1452753,2 | 1249961,5 | 1097215,1 | 5285980,8 | 0,82 | 6,286 |
| 2016 | 11049794,1 | 3128520,5 | 990976,5 | 987123,7 | 1106568,1 | 5393526,1 | 23,6 | 7,391 |
| 2017 | 11461614,2 | 3656755,1 | 963915,7 | 1433917 | 1199688,8 | 6595826,2 | 54,71 | 5,466 |
| 2018 | 12128808,6 | 5599638,5 | 1352180,1 | 2594345,9 | 1561411,7 | 9002446,1 | 29,3 | 5,847 |

## Tests de stationnarité des données

**II.1 Variables en niveau**

1. **Produit intérieur brut (PIB)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(PIB) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 2 (Fixed) | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -0.092320 | 0.9364 |
| Test critical values: | 1% level |  | -3.857386 |  |
|  | 5% level |  | -3.040391 |  |
|  | 10% level |  | -2.660551 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
| Warning: Probabilities and critical values calculated for 20 observations | | | | |
| and may not be accurate for a sample size of 18 | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(PIB)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/23/20 Time: 22:30 | | |  |  |
| Sample (adjusted): 2001 2018 | | |  |  |
| Included observations: 18 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(PIB(-1)) | -0.001646 | 0.017827 | -0.092320 | 0.9278 |
| D(LOG(PIB(-1))) | 0.661754 | 0.185740 | 3.562798 | 0.0031 |
| D(LOG(PIB(-2))) | -0.182643 | 0.187051 | -0.976435 | 0.3454 |
| C | 0.056573 | 0.278029 | 0.203479 | 0.8417 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.593641 | Mean dependent var | | 0.053831 |
| Adjusted R-squared | 0.506564 | S.D. dependent var | | 0.025925 |
| S.E. of regression | 0.018211 | Akaike info criterion | | -4.980442 |
| Sum squared resid | 0.004643 | Schwarz criterion | | -4.782582 |
| Log likelihood | 48.82398 | Hannan-Quinn criter. | | -4.953160 |
| F-statistic | 6.817439 | Durbin-Watson stat | | 2.379569 |
| Prob(F-statistic) | 0.004612 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**2) Recettes fiscales (RECFIS)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(RECFIS) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=4) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -6.891545 | 0.0000 |
| Test critical values: | 1% level |  | -3.808546 |  |
|  | 5% level |  | -3.020686 |  |
|  | 10% level |  | -2.650413 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(RECFIS)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/23/20 Time: 22:20 | | |  |  |
| Sample (adjusted): 1999 2018 | | |  |  |
| Included observations: 20 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(RECFIS(-1)) | -0.175596 | 0.025480 | -6.891545 | 0.0000 |
| C | 2.708654 | 0.332125 | 8.155515 | 0.0000 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.725163 | Mean dependent var | | 0.462850 |
| Adjusted R-squared | 0.709894 | S.D. dependent var | | 0.532348 |
| S.E. of regression | 0.286730 | Akaike info criterion | | 0.434090 |
| Sum squared resid | 1.479857 | Schwarz criterion | | 0.533664 |
| Log likelihood | -2.340905 | Hannan-Quinn criter. | | 0.453528 |
| F-statistic | 47.49339 | Durbin-Watson stat | | 1.472429 |
| Prob(F-statistic) | 0.000002 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**3) Impôts sur le commerce extérieur (IMPOCOM)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(IMPOCOM) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=4) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -6.015383 | 0.0001 |
| Test critical values: | 1% level |  | -3.808546 |  |
|  | 5% level |  | -3.020686 |  |
|  | 10% level |  | -2.650413 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(IMPOCOM)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:42 | | |  |  |
| Sample (adjusted): 1999 2018 | | |  |  |
| Included observations: 20 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(IMPOCOM(-1)) | -0.174775 | 0.029055 | -6.015383 | 0.0000 |
| C | 2.494862 | 0.349500 | 7.138367 | 0.0000 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.667804 | Mean dependent var | | 0.440749 |
| Adjusted R-squared | 0.649348 | S.D. dependent var | | 0.562338 |
| S.E. of regression | 0.332993 | Akaike info criterion | | 0.733251 |
| Sum squared resid | 1.995922 | Schwarz criterion | | 0.832824 |
| Log likelihood | -5.332507 | Hannan-Quinn criter. | | 0.752688 |
| F-statistic | 36.18484 | Durbin-Watson stat | | 1.591129 |
| Prob(F-statistic) | 0.000011 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**4) Impôts sur les revenus (IMPOREV)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(IMPOREV) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=4) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -4.168631 | 0.0046 |
| Test critical values: | 1% level |  | -3.808546 |  |
|  | 5% level |  | -3.020686 |  |
|  | 10% level |  | -2.650413 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(IMPOREV)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:43 | | |  |  |
| Sample (adjusted): 1999 2018 | | |  |  |
| Included observations: 20 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(IMPOREV(-1)) | -0.144697 | 0.034711 | -4.168631 | 0.0006 |
| C | 2.139005 | 0.408126 | 5.241036 | 0.0001 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.491202 | Mean dependent var | | 0.479715 |
| Adjusted R-squared | 0.462935 | S.D. dependent var | | 0.550224 |
| S.E. of regression | 0.403230 | Akaike info criterion | | 1.116022 |
| Sum squared resid | 2.926705 | Schwarz criterion | | 1.215595 |
| Log likelihood | -9.160221 | Hannan-Quinn criter. | | 1.135460 |
| F-statistic | 17.37748 | Durbin-Watson stat | | 1.877706 |
| Prob(F-statistic) | 0.000577 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Impôts sur les biens et services (IMPOBS)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(IMPOBS) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=4) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -7.585963 | 0.0000 |
| Test critical values: | 1% level |  | -3.808546 |  |
|  | 5% level |  | -3.020686 |  |
|  | 10% level |  | -2.650413 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(IMPOBS)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:45 | | |  |  |
| Sample (adjusted): 1999 2018 | | |  |  |
| Included observations: 20 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(IMPOBS(-1)) | -0.181117 | 0.023875 | -7.585963 | 0.0000 |
| C | 2.573189 | 0.283022 | 9.091837 | 0.0000 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.761737 | Mean dependent var | | 0.480730 |
| Adjusted R-squared | 0.748500 | S.D. dependent var | | 0.565231 |
| S.E. of regression | 0.283462 | Akaike info criterion | | 0.411161 |
| Sum squared resid | 1.446311 | Schwarz criterion | | 0.510734 |
| Log likelihood | -2.111608 | Hannan-Quinn criter. | | 0.430599 |
| F-statistic | 57.54683 | Durbin-Watson stat | | 1.802476 |
| Prob(F-statistic) | 0.000001 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Taux d’inflation (TINFL)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(TINFL) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=4) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -1.819393 | 0.3609 |
| Test critical values: | 1% level |  | -3.808546 |  |
|  | 5% level |  | -3.020686 |  |
|  | 10% level |  | -2.650413 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(TINFL)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:08 | | |  |  |
| Sample (adjusted): 1999 2018 | | |  |  |
| Included observations: 20 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(TINFL(-1)) | -0.276152 | 0.151782 | -1.819393 | 0.0855 |
| C | 0.714817 | 0.514170 | 1.390236 | 0.1814 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.155334 | Mean dependent var | | -0.076310 |
| Adjusted R-squared | 0.108408 | S.D. dependent var | | 1.299599 |
| S.E. of regression | 1.227136 | Akaike info criterion | | 3.341882 |
| Sum squared resid | 27.10552 | Schwarz criterion | | 3.441456 |
| Log likelihood | -31.41882 | Hannan-Quinn criter. | | 3.361320 |
| F-statistic | 3.310192 | Durbin-Watson stat | | 1.431595 |
| Prob(F-statistic) | 0.085526 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Dépenses publiques (DEPPUB)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(DEPPUB) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 1 (Automatic - based on SIC, maxlag=4) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -3.999048 | 0.0071 |
| Test critical values: | 1% level |  | -3.831511 |  |
|  | 5% level |  | -3.029970 |  |
|  | 10% level |  | -2.655194 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
| Warning: Probabilities and critical values calculated for 20 observations | | | | |
| and may not be accurate for a sample size of 19 | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(DEPPUB)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:49 | | |  |  |
| Sample (adjusted): 2000 2018 | | |  |  |
| Included observations: 19 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(DEPPUB(-1)) | -0.254382 | 0.063611 | -3.999048 | 0.0010 |
| D(LOG(DEPPUB(-1))) | -0.111517 | 0.205177 | -0.543515 | 0.5943 |
| C | 3.980503 | 0.974074 | 4.086449 | 0.0009 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.786805 | Mean dependent var | | 0.384420 |
| Adjusted R-squared | 0.760155 | S.D. dependent var | | 0.488238 |
| S.E. of regression | 0.239109 | Akaike info criterion | | 0.120148 |
| Sum squared resid | 0.914773 | Schwarz criterion | | 0.269270 |
| Log likelihood | 1.858596 | Hannan-Quinn criter. | | 0.145385 |
| F-statistic | 29.52426 | Durbin-Watson stat | | 1.876433 |
| Prob(F-statistic) | 0.000004 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Crédit domestique (CREDIT)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: LOG(CREDIT) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -1.051060 | 0.7110 |
| Test critical values: | 1% level |  | -3.857386 |  |
|  | 5% level |  | -3.040391 |  |
|  | 10% level |  | -2.660551 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
| Warning: Probabilities and critical values calculated for 20 observations | | | | |
| and may not be accurate for a sample size of 18 | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(CREDIT)) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:52 | | |  |  |
| Sample (adjusted): 2001 2018 | | |  |  |
| Included observations: 18 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(CREDIT(-1)) | -0.076557 | 0.072838 | -1.051060 | 0.3088 |
| C | 0.183086 | 0.094145 | 1.944715 | 0.0696 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.064586 | Mean dependent var | | 0.112180 |
| Adjusted R-squared | 0.006123 | S.D. dependent var | | 0.279461 |
| S.E. of regression | 0.278604 | Akaike info criterion | | 0.386391 |
| Sum squared resid | 1.241927 | Schwarz criterion | | 0.485322 |
| Log likelihood | -1.477522 | Hannan-Quinn criter. | | 0.400033 |
| F-statistic | 1.104726 | Durbin-Watson stat | | 1.491304 |
| Prob(F-statistic) | 0.308848 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

**II.2 Variables en différence**

1. **Produit intérieur brut (PIB)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LOG(PIB)) has a unit root | | | |  |
| Exogenous: Constant | | |  |  |
| Lag Length: 2 (Fixed) | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -3.826314 | 0.0113 |
| Test critical values: | 1% level |  | -3.886751 |  |
|  | 5% level |  | -3.052169 |  |
|  | 10% level |  | -2.666593 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
| Warning: Probabilities and critical values calculated for 20 observations | | | | |
| and may not be accurate for a sample size of 17 | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(PIB),2) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/23/20 Time: 14:59 | | |  |  |
| Sample (adjusted): 2002 2018 | | |  |  |
| Included observations: 17 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| D(LOG(PIB(-1))) | -0.683272 | 0.178572 | -3.826314 | 0.0021 |
| D(LOG(PIB(-1)),2) | 0.132141 | 0.168595 | 0.783776 | 0.4472 |
| D(LOG(PIB(-2)),2) | 0.015661 | 0.168129 | 0.093148 | 0.9272 |
| C | 0.040345 | 0.010559 | 3.820782 | 0.0021 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.577600 | Mean dependent var | | 0.004577 |
| Adjusted R-squared | 0.480123 | S.D. dependent var | | 0.024905 |
| S.E. of regression | 0.017957 | Akaike info criterion | | -4.999299 |
| Sum squared resid | 0.004192 | Schwarz criterion | | -4.803248 |
| Log likelihood | 46.49404 | Hannan-Quinn criter. | | -4.979811 |
| F-statistic | 5.925511 | Durbin-Watson stat | | 2.096829 |
| Prob(F-statistic) | 0.008926 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Taux d’inflation (TINFL)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LOG(TINFL)) has a unit root | | | | |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=4) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -3.533486 | 0.0185 |
| Test critical values: | 1% level |  | -3.831511 |  |
|  | 5% level |  | -3.029970 |  |
|  | 10% level |  | -2.655194 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
| Warning: Probabilities and critical values calculated for 20 observations | | | | |
| and may not be accurate for a sample size of 19 | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(TINFL),2) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:10 | | |  |  |
| Sample (adjusted): 2000 2018 | | |  |  |
| Included observations: 19 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| D(LOG(TINFL(-1))) | -0.820691 | 0.232261 | -3.533486 | 0.0026 |
| C | -0.139062 | 0.300557 | -0.462682 | 0.6495 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.423446 | Mean dependent var | | -0.100112 |
| Adjusted R-squared | 0.389531 | S.D. dependent var | | 1.675638 |
| S.E. of regression | 1.309218 | Akaike info criterion | | 3.476038 |
| Sum squared resid | 29.13888 | Schwarz criterion | | 3.575452 |
| Log likelihood | -31.02236 | Hannan-Quinn criter. | | 3.492863 |
| F-statistic | 12.48552 | Durbin-Watson stat | | 1.903710 |
| Prob(F-statistic) | 0.002552 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Crédit domestique (CREDIT)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Null Hypothesis: D(LOG(CREDIT)) has a unit root | | | | |
| Exogenous: Constant | | |  |  |
| Lag Length: 0 (Automatic - based on SIC, maxlag=3) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller test statistic | | | -3.632178 | 0.0165 |
| Test critical values: | 1% level |  | -3.886751 |  |
|  | 5% level |  | -3.052169 |  |
|  | 10% level |  | -2.666593 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*MacKinnon (1996) one-sided p-values. | | | |  |
| Warning: Probabilities and critical values calculated for 20 observations | | | | |
| and may not be accurate for a sample size of 17 | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Augmented Dickey-Fuller Test Equation | | | |  |
| Dependent Variable: D(LOG(CREDIT),2) | | | |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 11:55 | | |  |  |
| Sample (adjusted): 2002 2018 | | |  |  |
| Included observations: 17 after adjustments | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| D(LOG(CREDIT(-1))) | -0.839291 | 0.231071 | -3.632178 | 0.0025 |
| C | 0.121251 | 0.069765 | 1.737993 | 0.1027 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.467948 | Mean dependent var | | 0.024891 |
| Adjusted R-squared | 0.432478 | S.D. dependent var | | 0.353145 |
| S.E. of regression | 0.266038 | Akaike info criterion | | 0.299779 |
| Sum squared resid | 1.061647 | Schwarz criterion | | 0.397804 |
| Log likelihood | -0.548120 | Hannan-Quinn criter. | | 0.309523 |
| F-statistic | 13.19272 | Durbin-Watson stat | | 2.059898 |
| Prob(F-statistic) | 0.002458 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Estimation du modèle ARDL

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Dependent Variable: LOG(PIB) | | |  |  |
| Method: ARDL | |  |  |  |
| Date: 07/24/20 Time: 12:04 | | |  |  |
| Sample (adjusted): 2001 2018 | | |  |  |
| Included observations: 18 after adjustments | | | |  |
| Maximum dependent lags: 1 (Automatic selection) | | | | |
| Model selection method: Akaike info criterion (AIC) | | | | |
| Dynamic regressors (1 lag, automatic): LOG(RECFIS) LOG(IMPOCOM) | | | | |
| LOG(IMPOREV) LOG(IMPOBS) LOG(TINFL) LOG(DEPPUB) | | | | |
| LOG(CREDIT) | | |  |  |
| Fixed regressors: C | | |  |  |
| Number of models evalulated: 128 | | | |  |
| Selected Model: ARDL(1, 1, 1, 1, 1, 1, 1, 1) | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(PIB(-1)) | 0.845951 | 0.032036 | 26.40590 | 0.0014 |
| LOG(RECFIS) | -0.309707 | 0.070086 | -4.418938 | 0.0476 |
| LOG(RECFIS(-1)) | 0.102136 | 0.045906 | 2.224885 | 0.1561 |
| LOG(IMPOCOM) | 0.161489 | 0.045151 | 3.576635 | 0.0701 |
| LOG(IMPOCOM(-1)) | -0.071037 | 0.029671 | -2.394159 | 0.1390 |
| LOG(IMPOREV) | 0.095690 | 0.015664 | 6.108998 | 0.0258 |
| LOG(IMPOREV(-1)) | 0.022635 | 0.007439 | 3.042777 | 0.0932 |
| LOG(IMPOBS) | 0.088001 | 0.020414 | 4.310830 | 0.0498 |
| LOG(IMPOBS(-1)) | -0.182263 | 0.033482 | -5.443648 | 0.0321 |
| LOG(TINFL) | 0.005961 | 0.003497 | 1.704488 | 0.2304 |
| LOG(TINFL(-1)) | -0.020642 | 0.002661 | -7.756521 | 0.0162 |
| LOG(DEPPUB) | 0.114569 | 0.014009 | 8.178074 | 0.0146 |
| LOG(DEPPUB(-1)) | 0.128004 | 0.020442 | 6.261712 | 0.0246 |
| LOG(CREDIT) | -0.194207 | 0.026298 | -7.384761 | 0.0178 |
| LOG(CREDIT(-1)) | 0.058053 | 0.009662 | 6.008452 | 0.0266 |
| C | 0.552239 | 0.499764 | 1.105001 | 0.3843 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.999988 | Mean dependent var | | 15.81443 |
| Adjusted R-squared | 0.999899 | S.D. dependent var | | 0.325517 |
| S.E. of regression | 0.003265 | Akaike info criterion | | -9.030551 |
| Sum squared resid | 2.13E-05 | Schwarz criterion | | -8.239110 |
| Log likelihood | 97.27496 | Hannan-Quinn criter. | | -8.921422 |
| F-statistic | 11264.95 | Durbin-Watson stat | | 3.722782 |
| Prob(F-statistic) | 0.000089 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*Note: p-values and any subsequent tests do not account for model | | | | |
| selection. | | |  |  |

## Validation du modèle estimé

1. **Test de normalité de Jarque-Bera**



1. **Test d’hétéroscédasticité de Glejser**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heteroskedasticity Test: Glejser | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
| F-statistic | 7.789250 | Prob. F(15,2) | | 0.1195 |
| Obs\*R-squared | 17.69707 | Prob. Chi-Square(15) | | 0.2789 |
| Scaled explained SS | 2.599832 | Prob. Chi-Square(15) | | 0.9998 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Test Equation : | |  |  |  |
| Dependent Variable : ARESID | | |  |  |
| Method : Least Squares | | |  |  |
| Date : 07/24/20 Time : 13 :10 | | |  |  |
| Sample : 2001 2018 | | |  |  |
| Included observations : 18 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -0.026981 | 0.044939 | -0.600392 | 0.6092 |
| LOG(PIB(-1)) | 0.002807 | 0.002881 | 0.974537 | 0.4326 |
| LOG(RECFIS) | -0.001668 | 0.006302 | -0.264703 | 0.8160 |
| LOG(RECFIS(-1)) | -0.005713 | 0.004128 | -1.383888 | 0.3006 |
| LOG(IMPOCOM) | -3.62E-05 | 0.004060 | -0.008924 | 0.9937 |
| LOG(IMPOCOM(-1)) | 0.005433 | 0.002668 | 2.036274 | 0.1787 |
| LOG(IMPOREV) | 0.002046 | 0.001409 | 1.452528 | 0.2835 |
| LOG(IMPOREV(-1)) | -0.001677 | 0.000669 | -2.507577 | 0.1290 |
| LOG(IMPOBS) | 1.81E-05 | 0.001836 | 0.009874 | 0.9930 |
| LOG(IMPOBS(-1)) | 0.002996 | 0.003011 | 0.995133 | 0.4245 |
| LOG(TINFL) | -0.000388 | 0.000314 | -1.233102 | 0.3428 |
| LOG(TINFL(-1)) | 0.000184 | 0.000239 | 0.767091 | 0.5232 |
| LOG(DEPPUB) | 0.000833 | 0.001260 | 0.660949 | 0.5766 |
| LOG(DEPPUB(-1)) | -0.002625 | 0.001838 | -1.428098 | 0.2894 |
| LOG(CREDIT) | 0.000207 | 0.002365 | 0.087342 | 0.9384 |
| LOG(CREDIT(-1)) | -0.000423 | 0.000869 | -0.486774 | 0.6745 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.983170 | Mean dependent var | | 0.000784 |
| Adjusted R-squared | 0.856949 | S.D. dependent var | | 0.000776 |
| S.E. of regression | 0.000294 | Akaike info criterion | | -13.84820 |
| Sum squared resid | 1.72E-07 | Schwarz criterion | | -13.05676 |
| Log likelihood | 140.6338 | Hannan-Quinn criter. | | -13.73908 |
| F-statistic | 7.789250 | Durbin-Watson stat | | 3.390063 |
| Prob(F-statistic) | 0.119527 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Test d’hétéroscédasticité de Breusch-Pagan-Godfrey**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Heteroskedasticity Test: Breusch-Pagan-Godfrey | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| F-statistic | 1.794402 | Prob. F(15,2) | | 0.4158 |
| Obs\*R-squared | 16.75502 | Prob. Chi-Square(15) | | 0.3337 |
| Scaled explained SS | 0.260587 | Prob. Chi-Square(15) | | 1.0000 |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Test Equation : | |  |  |  |
| Dependent Variable : RESID^2 | | |  |  |
| Method : Least Squares | | |  |  |
| Date : 07/24/20 Time : 13 :23 | | |  |  |
| Sample : 2001 2018 | | |  |  |
| Included observations : 18 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | 6.14E-05 | 0.000227 | 0.270585 | 0.8121 |
| LOG(PIB(-1)) | -2.15E-06 | 1.46E-05 | -0.147559 | 0.8962 |
| LOG(RECFIS) | 5.45E-06 | 3.18E-05 | 0.171201 | 0.8798 |
| LOG(RECFIS(-1)) | -1.27E-05 | 2.09E-05 | -0.607284 | 0.6054 |
| LOG(IMPOCOM) | -9.08E-06 | 2.05E-05 | -0.442702 | 0.7013 |
| LOG(IMPOCOM(-1)) | 1.51E-05 | 1.35E-05 | 1.121761 | 0.3786 |
| LOG(IMPOREV) | 6.42E-06 | 7.12E-06 | 0.902172 | 0.4622 |
| LOG(IMPOREV(-1)) | -5.40E-06 | 3.38E-06 | -1.597831 | 0.2512 |
| LOG(IMPOBS) | -3.82E-06 | 9.27E-06 | -0.411483 | 0.7206 |
| LOG(IMPOBS(-1)) | 6.52E-06 | 1.52E-05 | 0.428308 | 0.7101 |
| LOG(TINFL) | -1.53E-06 | 1.59E-06 | -0.961161 | 0.4379 |
| LOG(TINFL(-1)) | 1.07E-07 | 1.21E-06 | 0.088363 | 0.9376 |
| LOG(DEPPUB) | 4.83E-06 | 6.36E-06 | 0.758232 | 0.5275 |
| LOG(DEPPUB(-1)) | -8.32E-06 | 9.29E-06 | -0.896053 | 0.4648 |
| LOG(CREDIT) | 6.37E-07 | 1.19E-05 | 0.053305 | 0.9623 |
| LOG(CREDIT(-1)) | 1.23E-06 | 4.39E-06 | 0.279537 | 0.8061 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.930834 | Mean dependent var | | 1.18E-06 |
| Adjusted R-squared | 0.412091 | S.D. dependent var | | 1.93E-06 |
| S.E. of regression | 1.48E-06 | Akaike info criterion | | -24.42393 |
| Sum squared resid | 4.40E-12 | Schwarz criterion | | -23.63249 |
| Log likelihood | 235.8153 | Hannan-Quinn criter. | | -24.31480 |
| F-statistic | 1.794402 | Durbin-Watson stat | | 3.457221 |
| Prob(F-statistic) | 0.415826 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

1. **Test de spécification de Ramsey**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ramsey RESET Test | | |  |  |
| Equation: RESULTATS\_1 | | |  |  |
| Specification: LOG(PIB) LOG(PIB(-1)) LOG(RECFIS) LOG(RECFIS(-1)) | | | | |
| LOG(IMPOCOM) LOG(IMPOCOM(-1)) LOG(IMPOREV) LOG(IMPOREV( | | | | |
| -1)) LOG(IMPOBS) LOG(IMPOBS(-1)) LOG(TINFL) LOG(TINFL(-1)) | | | | |
| LOG(DEPPUB) LOG(DEPPUB(-1)) LOG(CREDIT) LOG(CREDIT(-1)) C | | | | |
|  | |  |  |  |
| Omitted Variables: Squares of fitted values | | | |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  | Value | df | Probability |  |
| t-statistic | 0.479996 | 1 | 0.7151 |  |
| F-statistic | 0.230397 | (1, 1) | 0.7151 |  |
|  |  |  |  |  |
|  |  |  |  |  |
| F-test summary: | | |  |  |
|  | Sum of Sq. | df | Mean Squares |  |
| Test SSR | 3.99E-06 | 1 | 3.99E-06 |  |
| Restricted SSR | 2.13E-05 | 2 | 1.07E-05 |  |
| Unrestricted SSR | 1.73E-05 | 1 | 1.73E-05 |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Unrestricted Test Equation: | | |  |  |
| Dependent Variable: LOG(PIB) | | |  |  |
| Method: ARDL | |  |  |  |
| Date: 07/24/20 Time: 13:29 | | |  |  |
| Sample: 2001 2018 | | |  |  |
| Included observations: 18 | | |  |  |
| Maximum dependent lags: 1 (Automatic selection) | | | | |
| Model selection method: Akaike info criterion (AIC) | | | | |
| Dynamic regressors (1 lag, automatic): | | | |  |
| Fixed regressors: C | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob.\* |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(PIB(-1)) | -1.939686 | 5.803607 | -0.334221 | 0.7947 |
| LOG(RECFIS) | 0.615505 | 1.929611 | 0.318979 | 0.8034 |
| LOG(RECFIS(-1)) | -0.199148 | 0.630405 | -0.315906 | 0.8052 |
| LOG(IMPOCOM) | -0.291325 | 0.945126 | -0.308240 | 0.8097 |
| LOG(IMPOCOM(-1)) | 0.145713 | 0.453147 | 0.321557 | 0.8019 |
| LOG(IMPOREV) | -0.214755 | 0.647074 | -0.331885 | 0.7960 |
| LOG(IMPOREV(-1)) | -0.053990 | 0.159919 | -0.337611 | 0.7927 |
| LOG(IMPOBS) | -0.178639 | 0.556114 | -0.321227 | 0.8021 |
| LOG(IMPOBS(-1)) | 0.382579 | 1.177539 | 0.324897 | 0.8000 |
| LOG(TINFL) | -0.007982 | 0.029387 | -0.271602 | 0.8312 |
| LOG(TINFL(-1)) | 0.045668 | 0.138190 | 0.330475 | 0.7968 |
| LOG(DEPPUB) | -0.252511 | 0.764966 | -0.330094 | 0.7970 |
| LOG(DEPPUB(-1)) | -0.265231 | 0.819661 | -0.323586 | 0.8008 |
| LOG(CREDIT) | 0.416643 | 1.273058 | 0.327278 | 0.7986 |
| LOG(CREDIT(-1)) | -0.124759 | 0.381060 | -0.327398 | 0.7986 |
| C | 24.69034 | 50.29221 | 0.490938 | 0.7095 |
| FITTED^2 | 0.102836 | 0.214243 | 0.479996 | 0.7151 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.999990 | Mean dependent var | | 15.81443 |
| Adjusted R-squared | 0.999836 | S.D. dependent var | | 0.325517 |
| S.E. of regression | 0.004163 | Akaike info criterion | | -9.126777 |
| Sum squared resid | 1.73E-05 | Schwarz criterion | | -8.285870 |
| Log likelihood | 99.14099 | Hannan-Quinn criter. | | -9.010827 |
| F-statistic | 6497.056 | Durbin-Watson stat | | 3.515643 |
| Prob(F-statistic) | 0.009745 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| \*Note: p-values and any subsequent tests do not account for model | | | | |
| selection. | | |  |  |

## Test de cointégration aux bornes de Pesaran

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ARDL Bounds Test | | |  |  |
| Date: 07/24/20 Time: 12:18 | | |  |  |
| Sample: 2001 2018 | | |  |  |
| Included observations: 18 | | |  |  |
| Null Hypothesis: No long-run relationships exist | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Test Statistic | Value | k |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| F-statistic | 37.10604 | 7 |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Critical Value Bounds | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Significance | I0 Bound | I1 Bound |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| 10% | 2.03 | 3.13 |  |  |
| 5% | 2.32 | 3.5 |  |  |
| 2.5% | 2.6 | 3.84 |  |  |
| 1% | 2.96 | 4.26 |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Test Equation: | |  |  |  |
| Dependent Variable: DLOG(PIB) | | |  |  |
| Method: Least Squares | | |  |  |
| Date: 07/24/20 Time: 12:18 | | |  |  |
| Sample: 2001 2018 | | |  |  |
| Included observations: 18 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| DLOG(RECFIS) | -0.309707 | 0.070086 | -4.418938 | 0.0476 |
| DLOG(IMPOCOM) | 0.161489 | 0.045151 | 3.576635 | 0.0701 |
| DLOG(IMPOREV) | 0.095690 | 0.015664 | 6.108998 | 0.0258 |
| DLOG(IMPOBS) | 0.088001 | 0.020414 | 4.310830 | 0.0498 |
| DLOG(TINFL) | 0.005961 | 0.003497 | 1.704488 | 0.2304 |
| DLOG(DEPPUB) | 0.114569 | 0.014009 | 8.178074 | 0.0146 |
| DLOG(CREDIT) | -0.194207 | 0.026298 | -7.384761 | 0.0178 |
| C | 0.552239 | 0.499764 | 1.105001 | 0.3843 |
| LOG(RECFIS(-1)) | -0.207571 | 0.071220 | -2.914505 | 0.1003 |
| LOG(IMPOCOM(-1)) | 0.090452 | 0.043811 | 2.064594 | 0.1750 |
| LOG(IMPOREV(-1)) | 0.118325 | 0.017336 | 6.825424 | 0.0208 |
| LOG(IMPOBS(-1)) | -0.094262 | 0.023731 | -3.972174 | 0.0579 |
| LOG(TINFL(-1)) | -0.014681 | 0.002966 | -4.949329 | 0.0385 |
| LOG(DEPPUB(-1)) | 0.242573 | 0.029044 | 8.351838 | 0.0140 |
| LOG(CREDIT(-1)) | -0.136154 | 0.020193 | -6.742708 | 0.0213 |
| LOG(PIB(-1)) | -0.154049 | 0.032036 | -4.808540 | 0.0406 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.998134 | Mean dependent var | | 0.053831 |
| Adjusted R-squared | 0.984139 | S.D. dependent var | | 0.025925 |
| S.E. of regression | 0.003265 | Akaike info criterion | | -9.030551 |
| Sum squared resid | 2.13E-05 | Schwarz criterion | | -8.239110 |
| Log likelihood | 97.27496 | Hannan-Quinn criter. | | -8.921422 |
| F-statistic | 71.32099 | Durbin-Watson stat | | 3.722782 |
| Prob(F-statistic) | 0.013910 |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |

## Résultats du Modèle à correction d’erreur (MCE)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ARDL Cointegrating And Long Run Form | | | |  |
| Dependent Variable: LOG(PIB) | | |  |  |
| Selected Model: ARDL(1, 1, 1, 1, 1, 1, 1, 1) | | | |  |
| Date: 07/24/20 Time: 12:49 | | |  |  |
| Sample: 1998 2018 | | |  |  |
| Included observations: 18 | | |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Cointegrating Form | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| DLOG(RECFIS) | -0.096006 | 0.070086 | -1.369825 | 0.3043 |
| DLOG(IMPOCOM) | 0.007473 | 0.045151 | 0.165514 | 0.8838 |
| DLOG(IMPOREV) | -0.080870 | 0.015664 | -5.162823 | 0.0355 |
| DLOG(IMPOBS) | -0.015701 | 0.020414 | -0.769108 | 0.5222 |
| DLOG(TINFL) | 0.057366 | 0.003497 | 16.403492 | 0.0037 |
| DLOG(DEPPUB) | 0.044462 | 0.014009 | 3.173708 | 0.0866 |
| DLOG(CREDIT) | -1.675569 | 0.026298 | -63.713848 | 0.0002 |
| CointEq(-1) | -0.201593 | 0.032036 | -6.292622 | 0.0243 |
|  |  |  |  |  |
|  |  |  |  |  |
| Cointeq = LOG(PIB) - (-0.0513\*LOG(RECFIS) + 0.1788\*LOG(IMPOCOM) | | | | |
| -0.4279\*LOG(IMPOREV) + 0.4211\*LOG(IMPOBS) -0.2870\*LOG(TINFL) + | | | | |
| 9.5253\*LOG(DEPPUB) -16.6233\*LOG(CREDIT) -8.3116 ) | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |
| Long Run Coefficients | | | | |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| LOG(RECFIS) | -0.051262 | 0.359326 | -0.142662 | 0.8996 |
| LOG(IMPOCOM) | 0.178761 | 0.239717 | 0.745716 | 0.5336 |
| LOG(IMPOREV) | -0.427855 | 0.098194 | -4.357255 | 0.0488 |
| LOG(IMPOBS) | 0.421074 | 0.155815 | 2.702394 | 0.1140 |
| LOG(TINFL) | -0.287016 | 0.036899 | -7.778355 | 0.0161 |
| LOG(DEPPUB) | 9.525274 | 1.550196 | 6.144562 | 0.0255 |
| LOG(CREDIT) | -16.623258 | 2.681149 | -6.200050 | 0.0250 |
| C | -8.311629 | 3.715261 | -2.237159 | 0.1547 |
|  |  |  |  |  |