

# Online Appendix for "The World's First Global Safe Asset: British Public Debt 1718-1913"

Patricia Gomez-Gonzalez\* and Gabriel Mathy<sup>†</sup>

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\*Fordham University and RCEA, pgomezgonzalez@fordham.edu

<sup>†</sup>American University, mathy@american.edu

Table 1: Effect of the debt-to-GDP ratio on different private spreads in Britain (1718-1913)

|                         | (1)                  | (2)                  | (3)                  | (4)                  | (5)                  | (6)                  | (7)                  | (8)                  |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                         | Bank<br>rate         | Bank<br>rate         | Prime<br>paper       | Prime<br>paper       | Mortgage<br>rate     | Mortgage<br>rate     | Private<br>Discount  | Private<br>Discount  |
| Log(debt/GDP)           | -0.765***<br>(0.150) | -0.764***<br>(0.149) | -0.506***<br>(0.163) | -0.506***<br>(0.163) | -1.160***<br>(0.118) | -1.142***<br>(0.118) | -0.586***<br>(0.176) | -0.587***<br>(0.177) |
| Volatility              |                      | -0.312*<br>(0.161)   |                      | 0.0175<br>(0.116)    |                      | -0.297*<br>(0.159)   |                      | 0.145<br>(0.0883)    |
| Intercept               | 4.489***<br>(0.685)  | 4.555***<br>(0.692)  | 2.538***<br>(0.730)  | 2.535***<br>(0.735)  | 5.975***<br>(0.491)  | 5.966***<br>(0.485)  | 2.792***<br>(0.782)  | 2.761***<br>(0.790)  |
| F statistic             | 26.14                | 13.61                | 9.677                | 4.872                | 96.59                | 51.36                | 11.06                | 8.310                |
| Durbin-Watson statistic | 1.21                 | 0.38                 | 1.23                 | 0.45                 | 1.16                 | 0.95                 | 1.16                 | 0.95                 |
| Observations            | 196                  | 196                  | 196                  | 196                  | 158                  | 158                  | 196                  | 196                  |

Notes: This table shows a series of OLS regressions where the dependent variable is a measure of the private minus public spread. The corresponding private yield used is given under the numbers labeling the columns. Each spread is calculated as the corresponding yield minus the British consol yield. Standard errors in parentheses are robust to first-order autocorrelation and heteroskedasticity. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 2: Effect of the debt-to-GDP ratio on bank and prime paper spreads in Britain, pre-Napoleonic Wars (1718-1815)

|                         | (1)                  | (2)                  | (3)                  | (4)                  | (5)                 | (6)                  | (7)                  | (8)                  |
|-------------------------|----------------------|----------------------|----------------------|----------------------|---------------------|----------------------|----------------------|----------------------|
|                         | Bank<br>rate         | Bank<br>rate         | Bank<br>rate         | Bank<br>rate         | Prime<br>paper      | Prime<br>paper       | Prime<br>paper       | Prime<br>paper       |
| Log(debt/GDP)           | -1.605***<br>(0.178) | -1.639***<br>(0.160) | -1.641***<br>(0.160) | -1.635***<br>(0.166) | -0.452**<br>(0.198) | -0.435**<br>(0.198)  | -0.442**<br>(0.202)  | -0.420**<br>(0.194)  |
| Volatility              |                      | -0.389***<br>(0.121) | -0.390***<br>(0.121) | -0.384***<br>(0.125) |                     | 0.200***<br>(0.0611) | 0.195***<br>(0.0633) | 0.214***<br>(0.0656) |
| Real import growth      |                      |                      | 0.0410<br>(0.310)    |                      |                     |                      | 0.206<br>(0.418)     |                      |
| GDP per capita growth   |                      |                      |                      | -0.542<br>(1.647)    |                     |                      |                      | -1.740<br>(1.548)    |
| Intercept               | 8.341***<br>(0.803)  | 8.609***<br>(0.717)  | 8.615***<br>(0.714)  | 8.592***<br>(0.738)  | 2.113**<br>(0.919)  | 1.975**<br>(0.928)   | 2.005**<br>(0.946)   | 1.922**<br>(0.911)   |
| F statistic             | 81.30                | 54.38                | 37.59                | 39.86                | 5.230               | 14.64                | 9.665                | 9.956                |
| Durbin-Watson statistic | 0.54                 | 0.70                 | 0.71                 | 0.71                 | 0.66                | 0.70                 | 0.71                 | 0.72                 |
| Observations            | 98                   | 98                   | 98                   | 98                   | 98                  | 98                   | 98                   | 98                   |

Notes: This table shows a series of OLS regressions for the period between 1718 and 1815, where the dependent variable is a measure of the private minus public yields. The private yields used are the bank and the prime paper rates. Each spread is calculated as the corresponding yield minus the British consol yield. Standard errors in parentheses are robust to first-order autocorrelation and heteroskedasticity. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 3: Effect of the debt-to-GDP ratio on bank and prime paper spreads in Britain, post-Napoleonic Wars (1816-1913)

|                         | (1)                 | (2)                 | (3)                 | (4)                 | (5)                 | (6)                 | (7)                 | (8)                 |
|-------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                         | Bank<br>rate        | Bank<br>rate        | Bank<br>rate        | Bank<br>rate        | Prime<br>paper      | Prime<br>paper      | Prime<br>paper      | Prime<br>paper      |
| Log(debt/GDP)           | -0.445**<br>(0.180) | -0.383**<br>(0.175) | -0.382**<br>(0.176) | -0.384**<br>(0.175) | -0.479**<br>(0.224) | -0.449**<br>(0.226) | -0.456**<br>(0.224) | -0.447*<br>(0.227)  |
| Volatility              |                     | -3.355*<br>(1.694)  | -3.367*<br>(1.709)  | -3.388*<br>(1.710)  |                     | -1.603<br>(2.077)   | -1.426<br>(2.065)   | -1.534<br>(2.080)   |
| Real import growth      |                     |                     | -0.145<br>(1.256)   |                     |                     |                     | 2.064<br>(1.602)    |                     |
| GDP per capita growth   |                     |                     |                     | -1.101<br>(4.385)   |                     |                     |                     | 2.312<br>(4.763)    |
| Intercept               | 3.000***<br>(0.825) | 3.224***<br>(0.851) | 3.229***<br>(0.855) | 3.255***<br>(0.849) | 2.601***<br>(0.980) | 2.708***<br>(1.003) | 2.640***<br>(1.004) | 2.642***<br>(0.995) |
| F statistic             | 6.133               | 4.234               | 2.805               | 2.865               | 4.559               | 2.484               | 2.685               | 1.701               |
| Durbin-Watson statistic | 1.47                | 1.46                | 1.46                | 1.46                | 1.30                | 1.29                | 1.28                | 1.30                |
| Observations            | 98                  | 98                  | 98                  | 98                  | 98                  | 98                  | 98                  | 98                  |

Notes: This table shows a series of OLS regressions for the period between 1816 and 1913, where the dependent variable is a measure of the private minus public yields. The private yields used are the bank and the prime paper rates. Each spread is calculated as the corresponding yield minus the British consol yield. Standard errors in parentheses are robust to first-order autocorrelation and heteroskedasticity. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 4: Effect of the debt-to-GDP ratio on mortgage and private discount spreads in Britain, pre-Napoleonic Wars (1718-1815)

|                         | (1)                  | (2)                  | (3)                  | (4)                  | (5)                  | (6)                  | (7)                  | (8)                  |
|-------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                         | Mortgage<br>rate     | Mortgage<br>rate     | Mortgage<br>rate     | Mortgage<br>rate     | Private<br>discount  | Private<br>discount  | Private<br>discount  | Private<br>discount  |
| Log(debt/GDP)           | -1.074***<br>(0.136) | -1.090***<br>(0.133) | -1.083***<br>(0.132) | -1.095***<br>(0.134) | -0.732***<br>(0.255) | -0.718***<br>(0.258) | -0.715***<br>(0.259) | -0.703***<br>(0.249) |
| Volatility              |                      | -0.165<br>(0.116)    | -0.160<br>(0.118)    | -0.175<br>(0.112)    |                      | 0.156**<br>(0.0739)  | 0.159**<br>(0.0773)  | 0.171**<br>(0.0773)  |
| Real import growth      |                      |                      | -0.196<br>(0.294)    |                      |                      |                      | -0.110<br>(0.404)    |                      |
| GDP per capita growth   |                      |                      |                      | 1.296<br>(1.363)     |                      |                      |                      | -1.864<br>(1.916)    |
| Intercept               | 5.372***<br>(0.595)  | 5.491***<br>(0.581)  | 5.464***<br>(0.577)  | 5.508***<br>(0.587)  | 3.359***<br>(1.139)  | 3.252***<br>(1.159)  | 3.236***<br>(1.167)  | 3.195***<br>(1.125)  |
| F statistic             | 62.17                | 33.87                | 22.73                | 22.68                | 8.225                | 10.28                | 6.911                | 7.101                |
| Durbin-Watson statistic | 0.81                 | 0.88                 | 0.88                 | 0.85                 | 0.54                 | 0.55                 | 0.55                 | 0.57                 |
| Observations            | 97                   | 97                   | 97                   | 97                   | 98                   | 98                   | 98                   | 98                   |

Notes: This table shows a series of OLS regressions for the period between 1718 and 1815, where the dependent variable is a measure of the private minus public yields. The private yields used are the mortgage and the private discount rates. Each spread is calculated as the corresponding yield minus the British consol yield. Standard errors in parentheses are robust to first-order autocorrelation and heteroskedasticity. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 5: Effect of the debt-to-GDP ratio on mortgage and private discount spreads in Britain post-Napoleonic Wars (1816-1913)

|                         | (1)                 | (2)                 | (3)                 | (4)                 | (5)                 | (6)                 | (7)                 | (8)                 |
|-------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|                         | Mortgage<br>rate    | Mortgage<br>rate    | Mortgage<br>rate    | Mortgage<br>rate    | Private<br>discount | Private<br>discount | Private<br>discount | Private<br>discount |
| Log(debt/GDP)           | -0.132<br>(0.119)   | -0.147<br>(0.133)   | -0.147<br>(0.137)   | -0.147<br>(0.134)   | -0.504**<br>(0.225) | -0.549**<br>(0.226) | -0.547**<br>(0.228) | -0.551**<br>(0.227) |
| Volatility              |                     | 0.278<br>(0.606)    | 0.278<br>(0.610)    | 0.272<br>(0.603)    |                     | 2.444<br>(2.090)    | 2.414<br>(2.105)    | 2.373<br>(2.095)    |
| Real import growth      |                     |                     | 0.00371<br>(0.490)  |                     |                     |                     | -0.353<br>(1.449)   |                     |
| GDP per capita growth   |                     |                     |                     | 0.194<br>(1.084)    |                     |                     |                     | -2.385<br>(5.043)   |
| Intercept               | 2.200***<br>(0.498) | 2.218***<br>(0.516) | 2.218***<br>(0.526) | 2.214***<br>(0.512) | 2.515**<br>(0.993)  | 2.352**<br>(1.006)  | 2.363**<br>(1.004)  | 2.419**<br>(0.998)  |
| F statistic             | 1.230               | 0.616               | 0.424               | 0.438               | 4.992               | 3.367               | 2.355               | 2.412               |
| Durbin-Watson statistic | 0.22                | 0.23                | 0.23                | 0.24                | 1.09                | 1.14                | 1.14                | 1.14                |
| Observations            | 61                  | 61                  | 61                  | 61                  | 98                  | 98                  | 98                  | 98                  |

Notes: This table shows a series of OLS regressions for the period between 1816 and 1913, where the dependent variable is a measure of the private minus public yields. The private yields used are the mortgage and the private discount rates. Each spread is calculated as the corresponding yield minus the British consol yield. Standard errors in parentheses are robust to first-order autocorrelation and heteroskedasticity. \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Table 6: Summary Statistics of British Private Spreads

| <i>Panel A: Pre-Napoleonic Wars, 1718-1815</i>  |      |                    |                 |
|-------------------------------------------------|------|--------------------|-----------------|
|                                                 | Mean | Standard deviation | Number of years |
| Bank rate                                       | 1.14 | 0.82               | 98              |
| Prime paper rate                                | 0.08 | 0.64               | 98              |
| Mortgage rate                                   | 0.56 | 0.60               | 97              |
| Private discount rate                           | 0.07 | 0.72               | 98              |
| <i>Panel B: Post-Napoleonic Wars, 1816-1913</i> |      |                    |                 |
|                                                 | Mean | Standard deviation | Number of years |
| Bank rate                                       | 1.05 | 1.25               | 98              |
| Prime paper rate                                | 0.50 | 1.39               | 98              |
| Mortgage rate                                   | 1.67 | 0.22               | 61              |
| Private discount rate                           | 0.30 | 1.22               | 98              |

Note: Average and standard deviation for British private yield spreads (in %) before and after the Napoleonic Wars. Each spread is calculated as the corresponding yield minus the British consol yield. The last column gives the number of years for which data is available.