Table A: Select committee family tree for all committees affected by the Wright reforms (amended from the Institute for Government)

|  |  |  |
| --- | --- | --- |
| **Committee Family Name** | **Type** | **Select Committees included under name** |
| Business & Forerunners | Departmental | Industry & Trade  Trade & Industry  Business & Enterprise  Business, Innovation & Skills  Business, Energy & Industrial Strategy |
| Communities & Local Government & Forerunners | Departmental | Transport, Local Government & the Regions  Environment, Transport & Regional Affairs  Office of the Deputy Prime Minister: Housing, Planning, Local Government & the Regions  Communities & Local Government |
| Digital, Culture, Media & Sport & Forerunners | Departmental | National Heritage  Culture, Media & Sport  Digital, Culture, Media & Sport |
| Defence | Departmental | Defence |
| DEFRA & Forerunners | Departmental | Agriculture  Environment, Food & Rural Affairs  Environment  Environment, Transport & Regional Affairs |
| Education & Forerunners | Departmental | Education, Science & Arts  Education & Employment  Education & Skills  Children, Schools & Family  Education |
| Energy & Climate Change & Forerunners | Departmental | Energy  Energy & Climate Change |
| Exiting the European Union | Departmental | Exiting the European Union |
| Foreign Affairs | Departmental | Foreign Affairs |
| Health & Forerunners | Departmental | Social Services  Health |
| Home Affairs | Departmental | Home Affairs |
| International Development | Departmental | International Development |
| International Trade | Departmental | International Trade |
| Justice | Departmental | Justice |
| Northern Ireland Affairs | Departmental | Northern Ireland Affairs |
| Science & Technology & Forerunners | Departmental | Education, Science & Arts  Science & Technology  Innovation, Universities, Science & Skills |
| Scottish Affairs | Departmental | Scottish Affairs |
| Transport & Forerunners | Departmental | Transport  Environment, Transport & Regional Affairs  Transport, Local Government & the Regions |
| Treasury & Forerunners | Departmental | Treasury  Treasury & Civil Service |
| Welsh Affairs | Departmental | Welsh Affairs |
| Women & Equalities | Departmental | Women & Equalities |
| Work & Pensions & Forerunners | Departmental | Social Services  Social Security  Employment  Education & Employment  Work & Pensions |
| Backbench Business | Domestic / Administrative | Backbench Business |
| Petitions | Domestic / Administrative | Petitions |
| Procedure | Domestic / Administrative | Procedure |
| Standards & Privileges | Domestic / Administrative | Privileges  Standards  Standards in Public Life  Standards & Privileges |
| Environmental Audit | Other Scrutiny | Environmental Audit |
| Public Accounts | Other Scrutiny | Public Accounts |
| Public Administration & Constitutional Affairs | Other Scrutiny | Constitutional Affairs  Public Administration & Constitutional Affairs  Public Administration  Political & Constitutional Affairs  Treasury & Civil Service  Parliamentary Commissioner for Administration |

Figure A1: Proportion of Parliamentary Sessions above Upper 95% Confidence Bound minus Proportion of Parliamentary Sessions below Lower 95% Confidence Bound for each Select Committee (with Average and Standard Deviation)

Figure A2: Average Absolute Distance from Upper or Lower Confidence Bound for each Select Committee (with Average and Standard Deviation)

Table A2: Categorisation of Select Committees across Two Measures of Femaleness/Maleness

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | **Average Absolute Distance from Confidence Bound** | | | |
| **Strongly Female** | **Female** | **Male** | **Strongly Male** |
| **Proportion of Parliamentary Sessions Above Upper Confidence Bound Minus Proportion Below Lower Confidence Bound** | **Strongly Female** | Health  Women & Equalities  Work & Pensions | Education  Home Affairs |  |  |
| **Female** |  | Communities & Local Gvt | Justice |  |
| **Male** |  | Business  International Development  Procedure  Science & Technology  Transport | Backbench Business  Culture, Media & Sport  Energy & Climate Change  Environment, Food & Rural Affairs  Environmental Audit  Public Admin. & Const. Affairs  Public Accounts  Scottish Affairs  Welsh Affairs | Northern Ireland Affairs  Treasury |
| **Strongly Male** |  |  |  | Defence  Foreign Affairs  Petitions  Standards & Privileges |

*Table A3: Model Description & Statistics for each Time Series*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Series** | **Model**1 | **Number of Predictors** | **R-Squared** | ***Q* Statistic** |
| Female Membership | (1, 0, 0) | 4 | .979 | *Q* = 20.231; *df* =17; *p*<.263 |
| Female Chairs | (1, 0, 0) | 1 | .862 | *Q* = 12.422; *df* =17; *p*<.774 |
| Proportion within Confidence Bounds† | (0, 0, 0) | 4 | .672 | *Q* = 20.504; *df* =18; *p*<.305 |
| Divergence from Confidence Bounds† | (0, 0, 0) | 5 | .885 | *Q* = 13.463; *df* =18; *p*<.763 |
| Business | (1, 0, 0) | 5 | .961 | *Q* = 21.755; *df* = 17; *p*< .194 |
| Culture, Media & Sport | (0, 0, 0) | 5 | .902 | *Q* = 24.662; *df* = 18; *p*< .135 |
| Defence | (1, 0, 1) | 6 | .955 | *Q* = 15.102; *df* = 16; *p<* .517 |
| DEFRA | (1, 0, 0) | 7 | .956 | *Q* = 10.994; *df* = 17; *p<* .857 |
| Education | (0, 0, 1) | 6 | .896 | *Q* = 15.679; *df* = 17; *p<* .547 |
| Energy & Climate Change | (0, 0, 1) | 4 | .877 | *Q* = 19.351; *df* = 17; *p<* .309 |
| Foreign Affairs | (1, 0, 0) | 4 | .876 | *Q* = 9.636; *df* = 17; *p<* .918 |
| Health | (1, 0, 0) | 5 | .850 | *Q* = 23.481; *df* = 17; *p<* .134 |
| Home Affairs | (1, 0, 0) | 3 | .629 | *Q* = 9.302; *df* = 17; *p<* .930 |
| Northern Ireland Affairs | (1, 0, 0) | 3 | .790 | *Q* = 19.227; *df* = 17; *p<* .316 |
| Procedure | (1, 0, 0) | 4 | .820 | *Q* = 20.073; *df* = 17; *p<* .271 |
| Public Accounts | (1, 0, 0) | 4 | .864 | *Q* = 16.813; *df* = 17; *p<* .467 |
| Public Admin. & Con. Affairs | (0, 0, 2) | 6 | .840 | *Q* = 61.594; *df* = 17; *p<* .000\* |
| Science & Technology | (0, 1, 0) 2 | 4 | .384 | *Q* = 21.694; *df* = 18; *p<* .234 |
| Scottish Affairs | (1, 0, 0) | 4 | .817 | *Q* = 29.307; *df* = 17; *p<* .032\* |
| Standards & Privileges | (1, 0, 0)2 | 3 | .792 | *Q* = 20.948; *df* = 17; *p<* .229 |
| Transport | (1, 0, 0)2 | 6 | .901 | *Q* = 17.700; *df* = 17; *p<* .408 |
| Treasury | (1, 0, 0) | 4 | .601 | *Q* = 9.364; *df* = 17; *p<* .928 |
| Welsh Affairs | (0, 0, 1) | 4 | .925 | *Q* = 9.267; *df* = 17; *p<* .931 |
| Work & Pensions | (0, 0, 1) | 6 | .942 | *Q* = 22.642; *df* = 17; *p<* .161 |
| 1 The general form of non-seasonal ARIMA models is (*p*,*d*,*q*), where *p* = the order of the autoregressive parameter, *d* = the order of differencing, and *q* = the order of the moving average parameter. *Q* = Ljung-Box (LB) test statistic for the null hypothesis that the model residuals are distributed as white noise. The R ‘forecast’ package was used to investigate the appropriate form of each model, using the KPSS statistic (see Hyndman & Athanasopoulos 2014).  2 Choice of model informed by LB Q-statistic.  † The Women & Equalities committee was excluded from these series because its unique focus and short existence distorted the overall pattern of female membership. Inclusion of this committee would have exacerbated, rather than dampened down or reversed, the trends recorded here.  \* For these models, there seems to be some persisting autocorrelation on the LB Q-statistic. However, this statistic is less valid where there is an autoregressive term – see Hayashi, F. (2000) *Econometrics* (Princeton University Press), particularly section. 2.10 "Testing For serial correlation”.  **NB** Due to the relatively short time they have been in existence, it was not possible undertake ARIMA analyses of the Backbench Business; Communities & Local Government; Environmental Audit; International Development; Justice; Petitions; and Women & Equalities Select Committees. | | | | |

*Table A4: ARIMA(X) Model Parameters for each Time Series*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Dependent variable** | **Independent variables** | **Estimate** | **SE** | **Sig.** |
| ***Percentage Female Membership of Wright Committees*** | Constant | -.292 | 1.459 | .843 |
| AR(1) | .693 | .131 | .000 |
| Time | -.511\* | .117 | .000 |
| PrePost | 36.743 | 20.381 | .081 |
| Interact | -.961 | .622 | .133 |
| Female MPs | 1.763\* | .136 | .000 |
|  |  |  |  |
| ***Percentage Female Chairs of Wright Committees*** | Constant | 5.585 | 1.213 | .000 |
| AR(1) | .607 | .140 | .000 |
| PrePost | 17.310\* | 2.352 | .000 |
|  |  |  |  |  |
| ***Proportion of Select Committees within Confidence Bounds*** | Constant | -1.225 | 3.978 | .760 |
| Time | 2.160\* | .353 | .000 |
| PrePost | 166.025 | 98.036 | .100 |
|  | Interact | -6.160\* | 2.900 | .042 |
|  | Labour Government | -17.335\* | 6.391 | .011 |
|  |  |  |  |  |
| ***Average Absolute Divergence of Committee Membership from Confidence Bounds*** | Constant | .480 | .496 | .343 |
| Time | -.127\* | .044 | .008 |
| PrePost | -10.998 | 6.736 | .116 |
| Interact | .213 | .210 | .321 |
| Labour Government | -4.472\* | .791 | .000 |
|  | Female MPs | .588\* | .087 | .000 |
|  |  |  |  |  |
| ***Percentage Female Membership of Business & Forerunners*** | Constant | -4.730 | 2.669 | .087 |
| AR(1) | .604 | .154 | .000 |
| Time | .019 | .274 | .945 |
| PrePost | 165.969\* | 43.849 | .001 |
| Interact | -4.372\* | 1.328 | .003 |
| Female MPs | 1.279\* | .358 | .001 |
| 1997 | 8.339\* | 3.194 | .014 |
|  |  |  |  |
| ***Percentage Female Membership of Culture, Media & Sport & Forerunners*** | Constant | 2.646 | 2.095 | .224 |
| Time | -.882\* | .333 | .017 |
| PrePost | 84.910\* | 27.484 | .007 |
| Interact | -2.419 | 1.344 | .090 |
| Labour Government | 34.575\* | 3.847 | .000 |
| 1997 | -15.262\* | 4.801 | .005 |
|  |  |  |  |  |
| ***Percentage Female Membership of Defence*** | Constant | -2.525 | 1.169 | .040 |
| AR(1) | -.319 | .313 | .317 |
| MA(1) | -.996 | 3.612 | .785 |
| Time | -.474\* | .184 | .016 |
| PrePost | 201.805\* | 29.236 | .000 |
| Interact | -5.634\* | .870 | .000 |
|  | Start | -1.520\* | .618 | .021 |
|  | Female MPs | 1.323\* | .252 | .000 |
|  | 1997 | 7.645\* | 1.799 | .000 |
|  |  |  |  |  |
| ***Percentage Female Membership of Education & Forerunners*** | Constant | -12.661 | -3.039 | .005 |
| MA(1) | -.469 | .192 | .021 |
| Time | -.821 | .471 | .092 |
| PrePost | -42.928 | 83.544 | .611 |
| Interact | .231 | 2.589 | .930 |
| Labour Government | -27.362\* | 8.769 | .004 |
| Female MPs | 4.814\* | .910 | .000 |
| 1997 | 14.382\* | 6.369 | .032 |
|  |  |  |  |
| ***Percentage Female Membership of Energy & Climate Change & Forerunners*** | Constant | -6.604 | 2.009 | .003 |
| MA(1) | -.333 | .183 | .078 |
| Time | -.319 | .294 | .287 |
| PrePost | 49.187 | 51.969 | .351 |
| Interact | -2.059 | 1.537 | .190 |
| Female MPs | 2.037\* | .388 | .000 |
|  |  |  |  |  |
| ***Percentage Female Membership of Environment, Food & Rural Affairs & Forerunners*** | Constant | -.340 | 1.705 | .843 |
| AR(1) | -.191 | .215 | .383 |
| Time | -.675\* | .279 | .023 |
| PrePost | 17.042 | 37.881 | .656 |
| Interact | .457 | 1.172 | .700 |
| Labour Government | 11.557\* | 4.280 | .012 |
| Start | -4.305\* | 1.581 | .011 |
| End | 3.637\* | 1.548 | .026 |
|  | Female MPs | 1.268\* | .595 | .042 |
|  |  |  |  |  |
| ***Percentage Female Membership of Foreign Affairs*** | Constant | 4.266 | 1.871 | .030 |
| AR(1) | .445 | .167 | .012 |
| Time | -.326\* | .151 | .038 |
| PrePost | -20.931 | 34.603 | .550 |
| Interact | 1.271 | 1.038 | .230 |
| Labour Government | 17.035\* | 2.636 | .000 |
|  |  |  |  |  |
| ***Percentage Female Membership of Health & Forerunners*** | Constant | 8.235 | 3.157 | .014 |
| AR(1) | .102 | .191 | .596 |
| Time | -1.616\* | .383 | .000 |
| PrePost | -32.989 | 65.440 | .618 |
| Interact | .106 | 2.021 | .959 |
| Labour Government | -45.961\* | 7.137 | .000 |
|  | FemaleMPs | 5.337\* | .807 | .000 |
|  |  |  |  |  |
| ***Percentage Female Membership of Home Affairs*** | Constant | 11.350 | 3.841 | .006 |
| AR(1) | .566 | .148 | .001 |
| Time | .420\* | .205 | .049 |
| PrePost | 10.361 | 66.398 | .877 |
| Interact | -.223 | 1.998 | .912 |
|  |  |  |  |  |
| ***Percentage Female Membership of Northern Ireland Affairs*** | Constant | -8.016 | 7.013 | .269 |
| AR(1) | .672 | .205 | .004 |
| Time | 1.935\* | .677 | .011 |
| PrePost | 14.285 | 51.915 | .787 |
| Interact | -1.519 | 2.855 | .601 |
|  |  |  |  |  |
| ***Percentage Female Membership of Procedure*** | Constant | -3.518 | 4.385 | .430 |
| AR(1) | .552 | .166 | .003 |
| Time | 1.264\* | .268 | .000 |
| PrePost | 72.736 | 64.723 | .271 |
|  | Interact | -2.755 | 2.211 | .224 |
|  | End | -6.199\* | 1.938 | .004 |
|  |  |  |  |  |
| ***Percentage Female Membership of Public Accounts*** | Constant | -4.037 | 2.574 | .127 |
| AR(1) | .263 | .181 | .156 |
| Time | .775\* | .139 | .000 |
| PrePost | 39.992 | 64.063 | .537 |
| Interact | -.731 | 1.892 | .702 |
|  | End | -5.832\* | 1.947 | .005 |
|  |  |  |  |  |
| ***Percentage Female Membership of Public Administration and Constitutional Affairs & Forerunners*** | Constant | -6.998 | 1.500 | .000 |
| MA(2) | .988 | 5.871 | .868 |
| Time | .482 | .255 | .070 |
| PrePost | 144.178\* | 50.961 | .009 |
| Interact | -5.148\* | 1.553 | .003 |
|  | Labour Government | -19.835\* | 4.498 | .000 |
|  | Female MPs | 1.579\* | .557 | .009 |
|  | 1997 | 20.688\* | 4.482 | .000 |
|  |  |  |  |  |
| ***Percentage Female Membership of Science & Technology*** | Constant | -.199 | 3.110 | .949 |
| Difference | 1 |  |  |
| Time | -.067 | .163 | .685 |
| PrePost | -208.820\* | 83.166 | .018 |
| Interact | 6.343\* | 2.448 | .015 |
|  | Start | 8.875\* | 3.153 | .009 |
|  |  |  |  |  |
| ***Percentage Female Membership of Scottish Affairs*** | Constant | 2.040 | 4.601 | .661 |
| AR(1) | .694 | .143 | .000 |
| Time | -1.098\* | .366 | .006 |
| PrePost | 162.920\* | 62.580 | .015 |
| Interact | -4.546\* | 1.911 | .025 |
|  | Female MPs | 2.274\* | .437 | .000 |
|  |  |  |  |  |
| ***Percentage of Female Membership of Standards & Privileges & Forerunners*** | Constant | 2.771 | 3.311 | .409 |
| AR(1) | .649 | .143 | .000 |
| Time | .074 | .176 | .680 |
| PrePost | 103.276\* | 49.248 | .045 |
|  | Interact | -2.551 | 1.495 | .099 |
|  |  |  |  |  |
| ***Percentage Female Membership of Transport & Forerunners*** | Constant | 7.780 | 5.560 | .173 |
| AR(1) | .777 | .123 | .000 |
| Time | .369 | .389 | .351 |
| PrePost | 98.365 | 62.104 | .124 |
|  | Interact | -1.610 | 1.996 | .427 |
|  | Labour Government | 32.020\* | 7.375 | .000 |
|  | Female MPs | -1.403\* | .572 | .021 |
|  | 1997 | -9.759\* | 4.271 | .030 |
|  |  |  |  |  |
| ***Percentage Female Membership of Treasury & Forerunners*** | Constant | .983 | 2.777 | .726 |
| AR(1) | .438 | .171 | .016 |
| Time | -.360 | .330 | .285 |
| PrePost | 37.063 | 58.779 | .533 |
| Interact | -1.155 | 1.748 | .514 |
|  | FemaleMPs | 1.182\* | .428 | .010 |
|  |  |  |  |  |
| ***Percentage Female Membership of Welsh Affairs*** | Constant | -.043 | 2.086 | .984 |
| MA(1) | -.278 | .177 | .128 |
| Time | .005 | .180 | .976 |
| PrePost | 55.519 | 46.885 | .246 |
|  | Interact | -.685 | 1.394 | .627 |
|  | Labour Government | 20.236\* | 3.248 | .000 |
|  |  |  |  |  |
| ***Percentage Female Membership of Work & Pensions & Forerunners*** | Constant | 16.422 | 3.229 | .000 |
| MA(1) | -.498 | .188 | .013 |
| Time | .385 | .361 | .295 |
| PrePost | 146.442\* | 60.873 | .023 |
| Interact | -2.505 | 1.894 | .197 |
| Labour Government | 37.409\* | 6.768 | .000 |
|  | FemaleMPs | -1.617\* | .698 | .028 |
|  | 1997 | 9.873\* | 4.730 | .046 |
|  |  |  |  |  |