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 & TradeTrade & IndustryBusiness & EnterpriseBusiness, Innovation & SkillsBusiness, Energy & Industrial Strategy |
| Communities & Local Government & Forerunners | Departmental | Transport, Local Government & the RegionsEnvironment, Transport & Regional AffairsOffice of the Deputy Prime Minister: Housing, Planning, Local Government & the RegionsCommunities & Local Government |
| Digital, Culture, Media & Sport & Forerunners | Departmental | National HeritageCulture, Media & SportDigital, Culture, Media & Sport |
| Defence | Departmental | Defence |
| DEFRA & Forerunners | Departmental | AgricultureEnvironment, Food & Rural AffairsEnvironmentEnvironment, Transport & Regional Affairs |
| Education & Forerunners | Departmental | Education, Science & ArtsEducation & EmploymentEducation & SkillsChildren, Schools & FamilyEducation |
| Energy & Climate Change & Forerunners | Departmental | EnergyEnergy & Climate Change |
| Exiting the European Union | Departmental | Exiting the European Union |
| Foreign Affairs | Departmental | Foreign Affairs |
| Health & Forerunners | Departmental | Social ServicesHealth |
| 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 & ArtsScience & TechnologyInnovation, Universities, Science & Skills |
| Scottish Affairs | Departmental | Scottish Affairs |
| Transport & Forerunners | Departmental | TransportEnvironment, Transport & Regional AffairsTransport, Local Government & the Regions |
| Treasury & Forerunners | Departmental | TreasuryTreasury & Civil Service |
| Welsh Affairs | Departmental | Welsh Affairs |
| Women & Equalities | Departmental | Women & Equalities |
| Work & Pensions & Forerunners | Departmental | Social ServicesSocial SecurityEmploymentEducation & EmploymentWork & Pensions |
| Backbench Business | Domestic / Administrative | Backbench Business |
| Petitions | Domestic / Administrative | Petitions |
| Procedure | Domestic / Administrative | Procedure |
| Standards & Privileges | Domestic / Administrative | PrivilegesStandardsStandards in Public LifeStandards & Privileges |
| Environmental Audit | Other Scrutiny | Environmental Audit |
| Public Accounts | Other Scrutiny | Public Accounts |
| Public Administration & Constitutional Affairs | Other Scrutiny | Constitutional AffairsPublic Administration & Constitutional AffairsPublic AdministrationPolitical & Constitutional AffairsTreasury & Civil ServiceParliamentary 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** | HealthWomen & EqualitiesWork & Pensions | EducationHome Affairs |  |  |
| **Female** |  | Communities & Local Gvt | Justice |  |
| **Male** |  | BusinessInternational DevelopmentProcedureScience & TechnologyTransport | Backbench BusinessCulture, Media & SportEnergy & Climate ChangeEnvironment, Food & Rural AffairsEnvironmental AuditPublic Admin. & Const. AffairsPublic AccountsScottish AffairsWelsh Affairs | Northern Ireland AffairsTreasury |
| **Strongly Male** |  |  |  | DefenceForeign AffairsPetitionsStandards & 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 |
|  |  |  |  |  |