Appendix to *Measuring Transparency*

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Abstract

In what follows, we present the appendix for all results in *Measuring Transparency*. For ease of navigation, this appendix has been divided into five sections. The first two sections present detailed results from the baseline measurement model. Section A presents plots of the difficulty and discrimination parameters for all 240 items in the model. Section B presents time-series plots for the HRV scores for all 125 countries included in the model. The next two sections present model diagnostics. Section C presents convergence diagnostics for all parameters in the baseline model. While section D presents robustness checks of the priors and hyperpriors used in the model. Finally, the last two sections present comparisons between the baseline model and alternatives. Section 4 compares the fit of baseline model with that of a model consisting only of constant terms and with a two-dimensional IRT model. Section F compares the use of the HRV scores and the simple fraction of the 240 variables reported by a given country in a given year as indicators of transparency, in a replication of the work of Adserà, Boix and Payne (2003).

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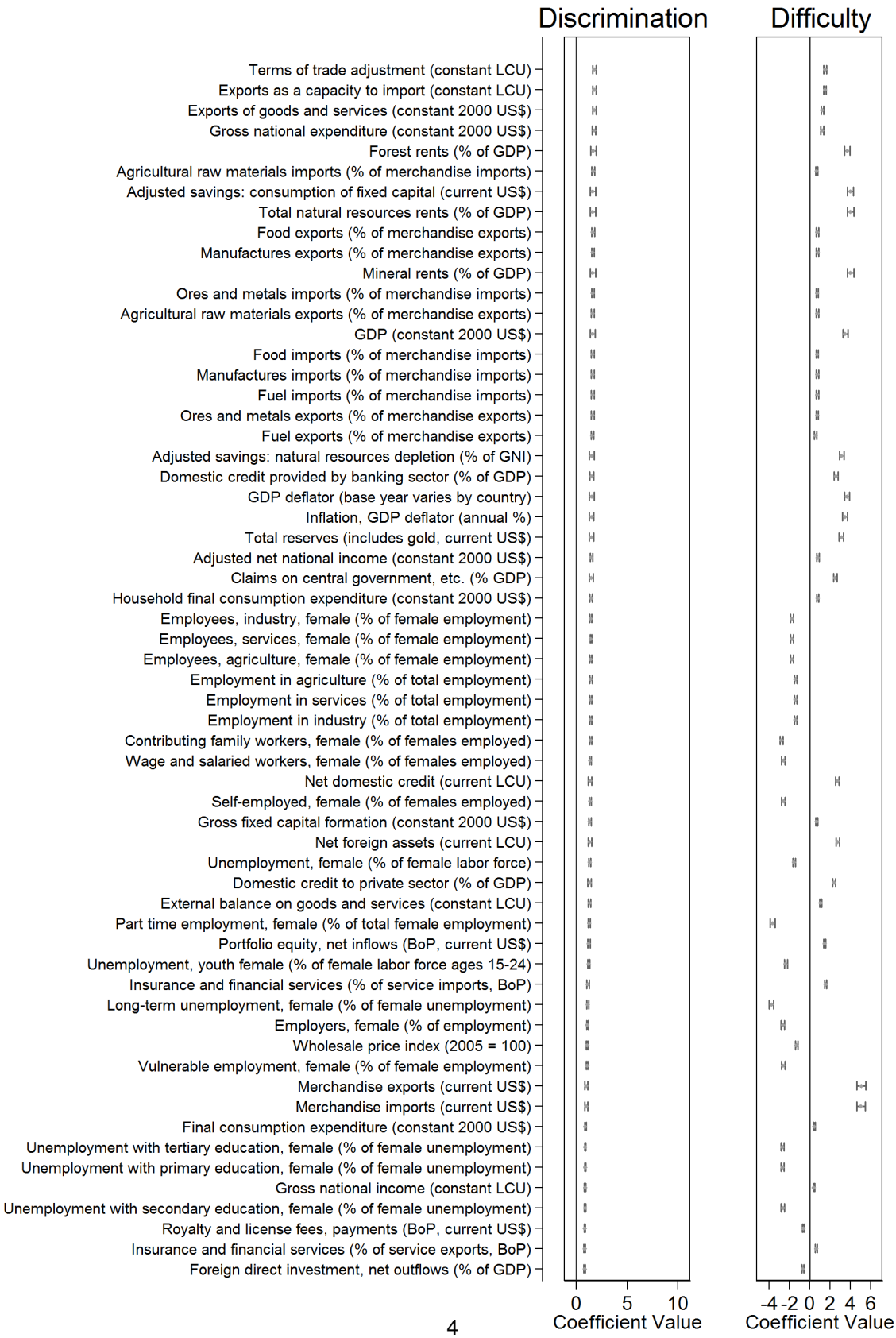
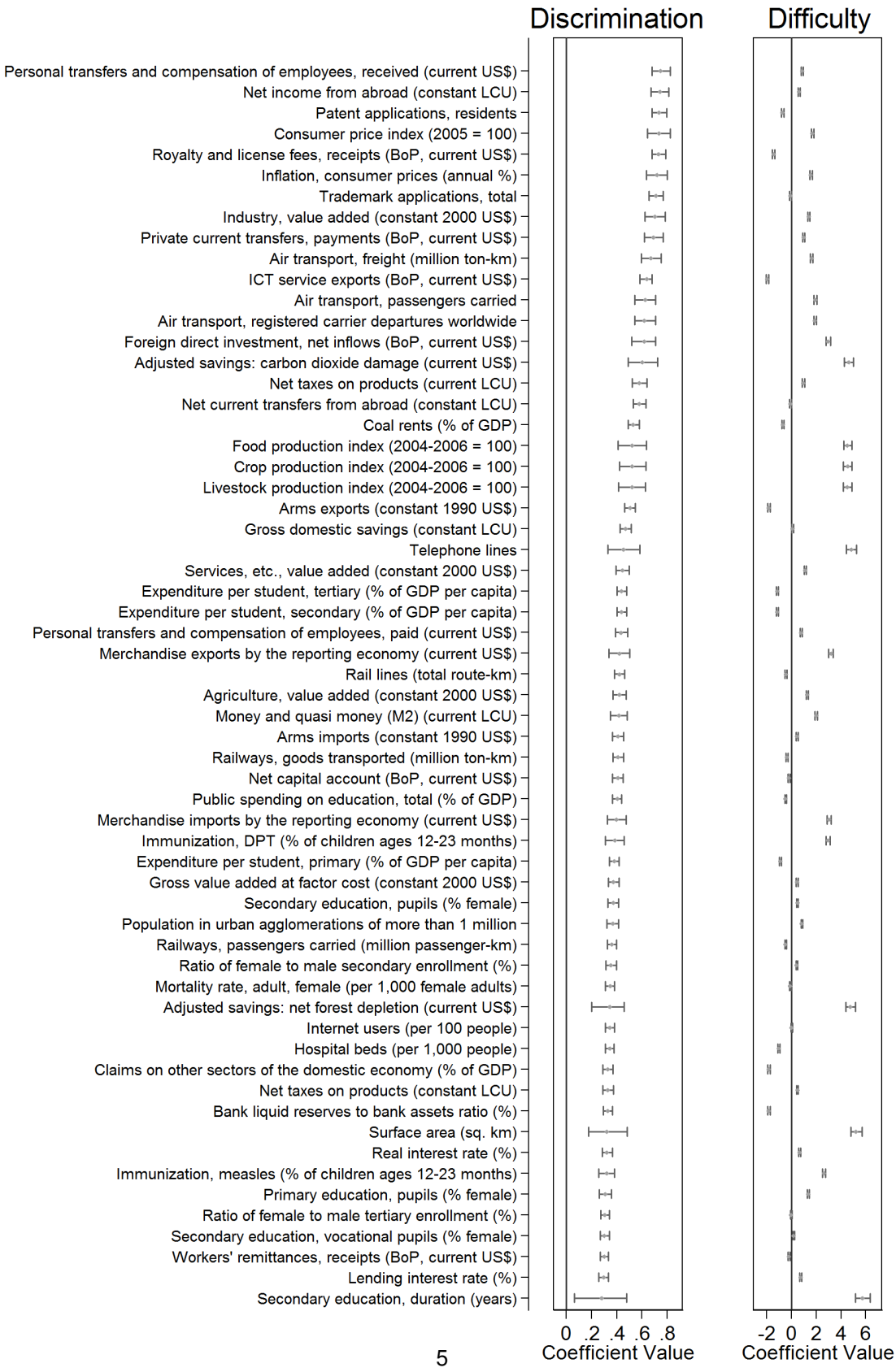
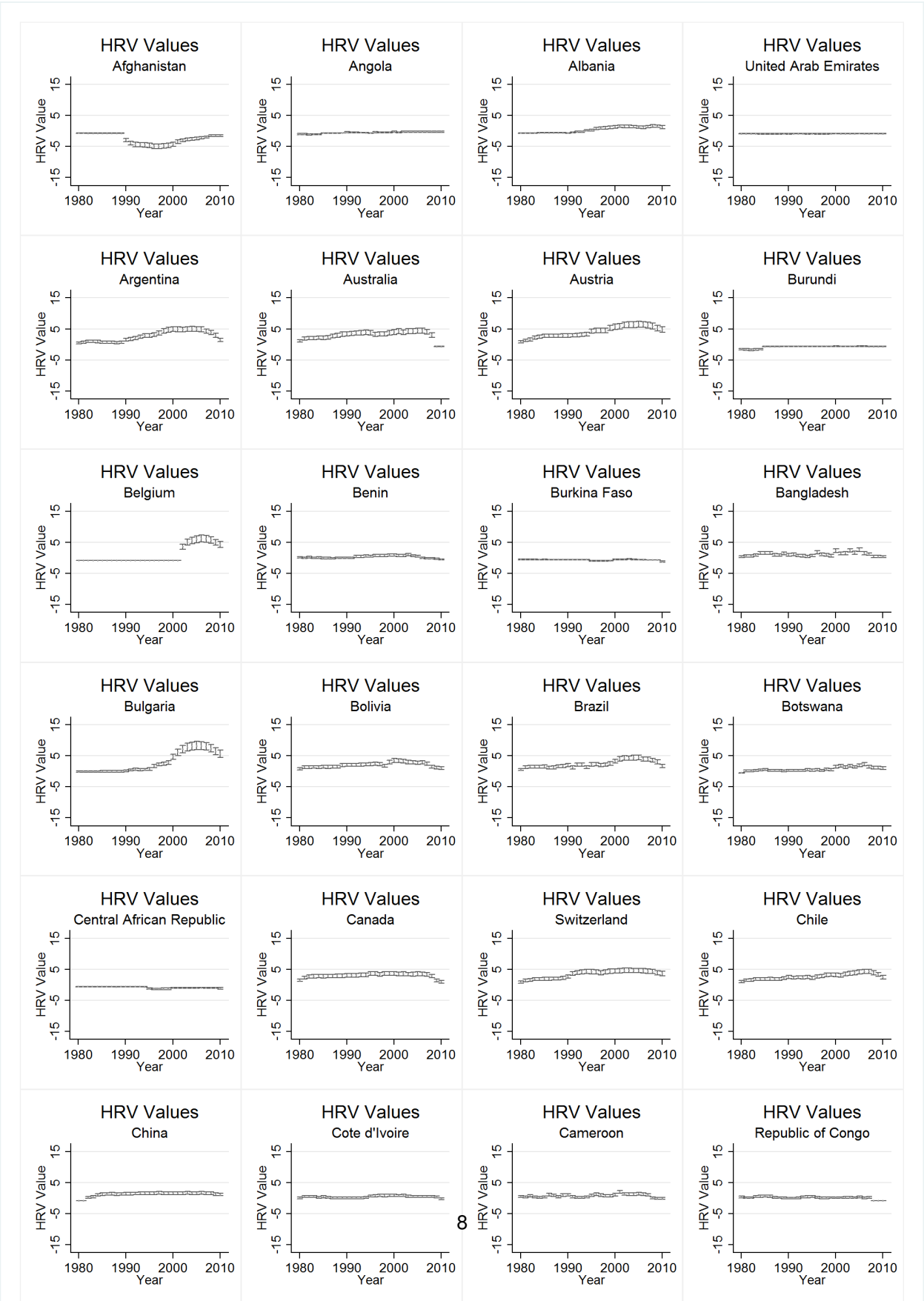
A List of Items Included and Discrimination and Difficulty Parameter Estimates

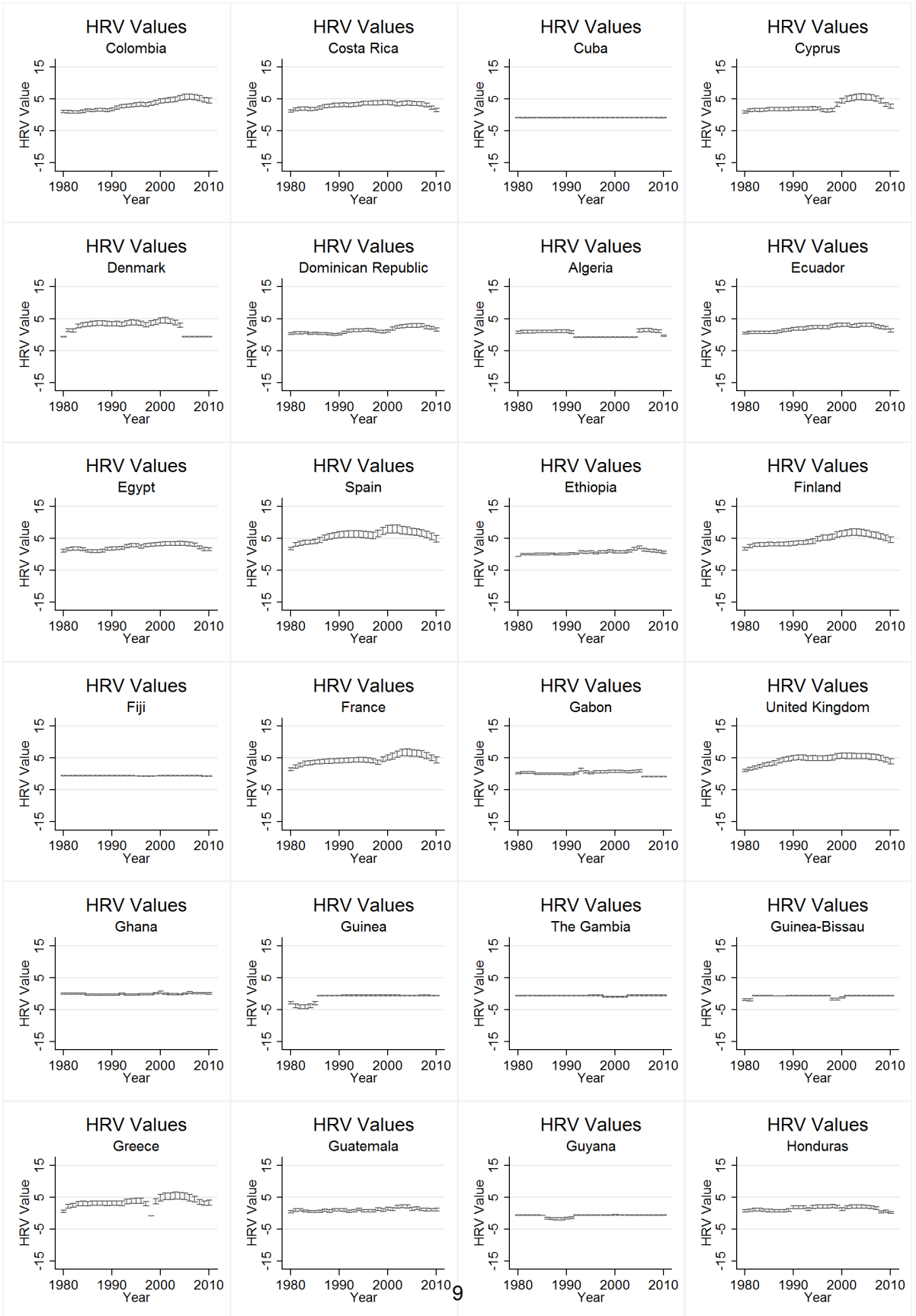

Discrimination
Difficulty
Terms of trade adjustment (constant LCU)
Exports as a capacity to import (constant LCU)
Exports of goods and services (constant 2000 US$)
Gross national expenditure (constant 2000 US$)
Forest rents (% of GDP)
Agricultural raw materials imports (% of merchandise imports)
Adjusted savings: consumption of fixed capital (current US$)
Total natural resources rents (% of GDP)
Food exports (% of merchandise exports)
Manufactures exports (% of merchandise exports)
Mineral rents (% of GDP)
Ores and metals imports (% of merchandise imports)
Agricultural raw materials exports (% of merchandise exports)
GDP (constant 2000 US$)
Food imports (% of merchandise imports)
Manufactures imports (% of merchandise imports)
Fuel imports (% of merchandise imports)
Ores and metals exports (% of merchandise exports)
Fuel exports (% of merchandise exports)
Adjusted savings: natural resources depletion (% of GNI)
Domestic credit provided by banking sector (% of GDP)
GDP deflator (base year varies by country)
Inflation, GDP deflator (annual %)
Total reserves (includes gold, current US$)
Adjusted net national income (constant 2000 US$)
Claims on central government, etc. (% GDP)
Household final consumption expenditure (constant 2000 US$)
Employees, industry, female (% of female employment)
Employees, services, female (% of female employment)
Employees, agriculture, female (% of female employment)
Employment in agriculture (% of total employment)
Employment in services (% of total employment)
Employment in industry (% of total employment)
Contributing family workers, female (% of females employed)
Wage and salaried workers, female (% of females employed)
Net domestic credit (current LCU)
Self-employed, female (% of females employed)
Gross fixed capital formation (constant 2000 US$)
Net foreign assets (current LCU)
Unemployment, female (% of female labor force)
Domestic credit to private sector (% of GDP)
External balance on goods and services (constant LCU)
Part time employment, female (% of total female employment)
Portfolio equity, net inflows (BoP, current US$)
Unemployment, youth female (% of female labor force ages 15-24)
Insurance and financial services (% of service imports, BoP)
Long-term unemployment, female (% of female unemployment)
Employers, female (% of employment)
Wholesale price index (2005 = 100)
Vulnerable employment, female (% of female employment)
Merchandise exports (current US$)
Merchandise imports (current US$)
Final consumption expenditure (constant 2000 US$)
Unemployment with tertiary education, female (% of female unemployment)
Unemployment with primary education, female (% of female unemployment)
Gross national income (constant LCU)
Unemployment with secondary education, female (% of female unemployment)
Royalty and license fees, payments (BoP, current US$)
Insurance and financial services (% of service exports, BoP)
Foreign direct investment, net outflows (% of GDP)
0 5 10
Coefficient Value
-4 -2 0 2 4 6
Coefficient Value

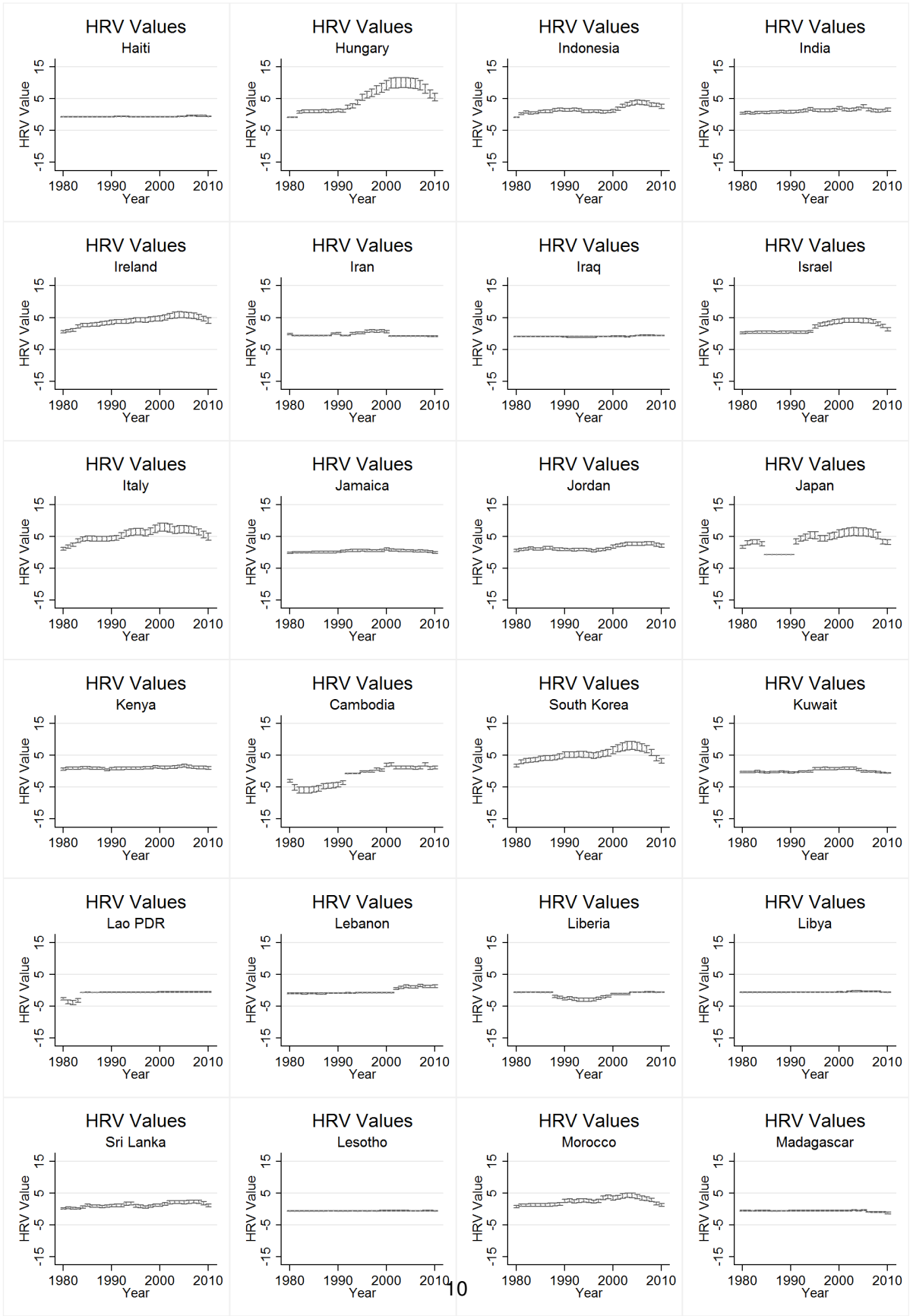

Discrimination
Difficulty
Personal transfers and compensation of employees, received (current US$)
Net income from abroad (constant LCU)
Patent applications, residents
Consumer price index (2005 = 100)
Royalty and license fees, receipts (BoP, current US$)
Inflation, consumer prices (annual %)
Trademark applications, total
Industry, value added (constant 2000 US$)
Private current transfers, payments (BoP, current US$)
Air transport, freight (million ton-km)
ICT service exports (BoP, current US$)
Air transport, passengers carried
Air transport, registered carrier departures worldwide
Foreign direct investment, net inflows (BoP, current US$)
Adjusted savings: carbon dioxide damage (current US$)
Net taxes on products (current LCU)
Net current transfers from abroad (constant LCU)
Coal rents (% of GDP)
Food production index (2004-2006 = 100)
Crop production index (2004-2006 = 100)
Livestock production index (2004-2006 = 100)
Arms exports (constant 1990 US$)
Gross domestic savings (constant LCU)
Telephone lines
Services, etc., value added (constant 2000 US$)
Expenditure per student, tertiary (% of GDP per capita)
Expenditure per student, secondary (% of GDP per capita)
Personal transfers and compensation of employees, paid (current US$)
Merchandise exports by the reporting economy (current US$)
Rail lines (total route-km)
Agriculture, value added (constant 2000 US$)
Money and quasi money (M2) (current LCU)
Arms imports (constant 1990 US$)
Railways, goods transported (million ton-km)
Net capital account (BoP, current US$)
Public spending on education, total (% of GDP)
Merchandise imports by the reporting economy (current US$)
Immunization, DPT (% of children ages 12-23 months)
Expenditure per student, primary (% of GDP per capita)
Gross value added at factor cost (constant 2000 US$)
Secondary education, pupils (% female)
Population in urban agglomerations of more than 1 million
Railways, passengers carried (million passenger-km)
Ratio of female to male secondary enrollment (%)
Mortality rate, adult, female (per 1,000 female adults)
Adjusted savings: net forest depletion (current US$)
Internet users (per 100 people)
Hospital beds (per 1,000 people)
Claims on other sectors of the domestic economy (% of GDP)
Net taxes on products (constant LCU)
Bank liquid reserves to bank assets ratio (%)
Surface area (sq. km)
Real interest rate (%)
Immunization, measles (% of children ages 12-23 months)
Primary education, pupils (% female)
Ratio of female to male tertiary enrollment (%)
Secondary education, vocational pupils (% female)
Workers' remittances, receipts (BoP, current US$)
Lending interest rate (%)
Secondary education, duration (years)
0 .2 .4 .6 .8
Coefficient Value
-2 0 2 4 6
Coefficient Value

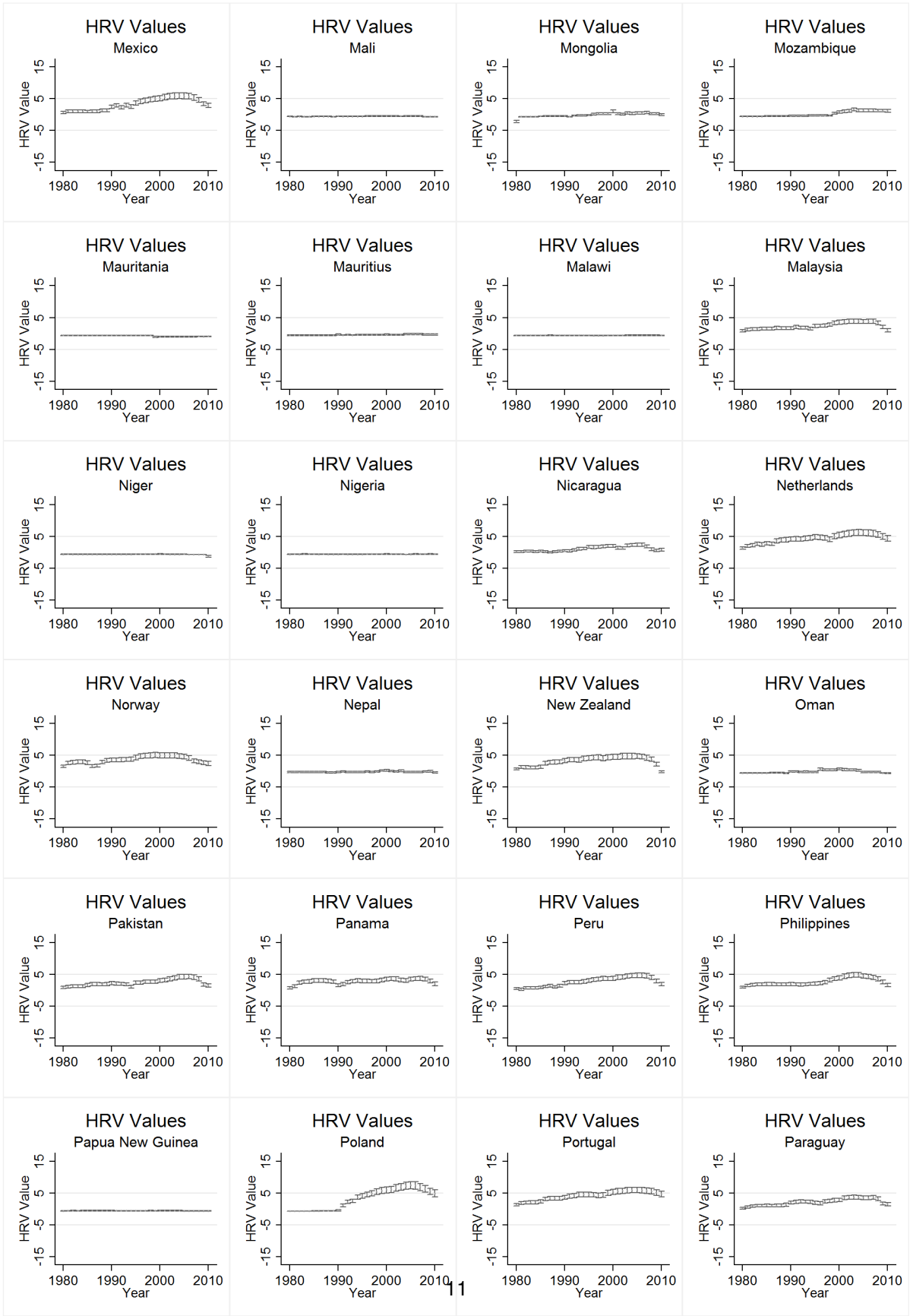
Discrimination
Difficulty
Primary school starting age (years)
Mortality rate, under-5 (per 1,000 live births)
Mortality rate, infant (per 1,000 live births)
Primary education, duration (years)
Ratio of female to male primary enrollment (%)
Land under cereal production (hectares)
Cereal production (metric tons)
Deposit interest rate (%)
Secondary education, vocational pupils
Population in the largest city (% of urban population)
Population in largest city
GINI index
Income share held by highest 10%
Tertiary education, teachers (% female)
Interest rate spread (lending rate minus deposit rate, %)
Pupil-teacher ratio, secondary
Secondary school starting age (years)
Manufacturing, value added (constant 2000 US$)
Children out of school, primary, female
Adjusted net enrollment rate, primary, female (% of primary school age children)
Secondary education, teachers, female
Urban population
Rural population
Age dependency ratio, young (% of working-age population)
Age dependency ratio, old (% of working-age population)
Population, total
Risk premium on lending (lending rate minus treasury bill rate, %)
Gross intake rate in grade 1, female (% of relevant age group)
Repeaters, secondary, female (% of female enrollment)
Money (current LCU)
Pupil-teacher ratio, primary
Mobile cellular subscriptions
Primary education, teachers (% female)
Repeaters, primary, female (% of female enrollment)
Quasi money (current LCU)
Primary completion rate, female (% of relevant age group)
Changes in inventories (constant LCU)
Liquid liabilities (M3) as % of GDP
Progression to secondary school, female (%)
Net barter terms of trade index (2000 = 100)
Birth rate, crude (per 1,000 people)
Import volume index (2000 = 100)
Adjusted savings: mineral depletion (current US$)
Claims on private sector (annual growth as % of broad money)
Broad money (current LCU)
Population, female (% of total)
Quasi-liquid liabilities (% of GDP)
Gross national expenditure deflator (base year varies by country)
Death rate, crude (per 1,000 people)
Persistence to last grade of primary, female (% of cohort)
Life expectancy at birth, female (years)
Export volume index (2000 = 100)
Persistence to grade 5, female (% of cohort)
Adjusted savings: energy depletion (current US$)
Population ages 0-14 (% of total)
Export value index (2000 = 100)
Import value index (2000 = 100)
Fertility rate, total (births per woman)
Gross fixed capital formation, private sector (current LCU)
-2 -1 0 1 2
Coefficient Value
0 10 20 30
Coefficient Value

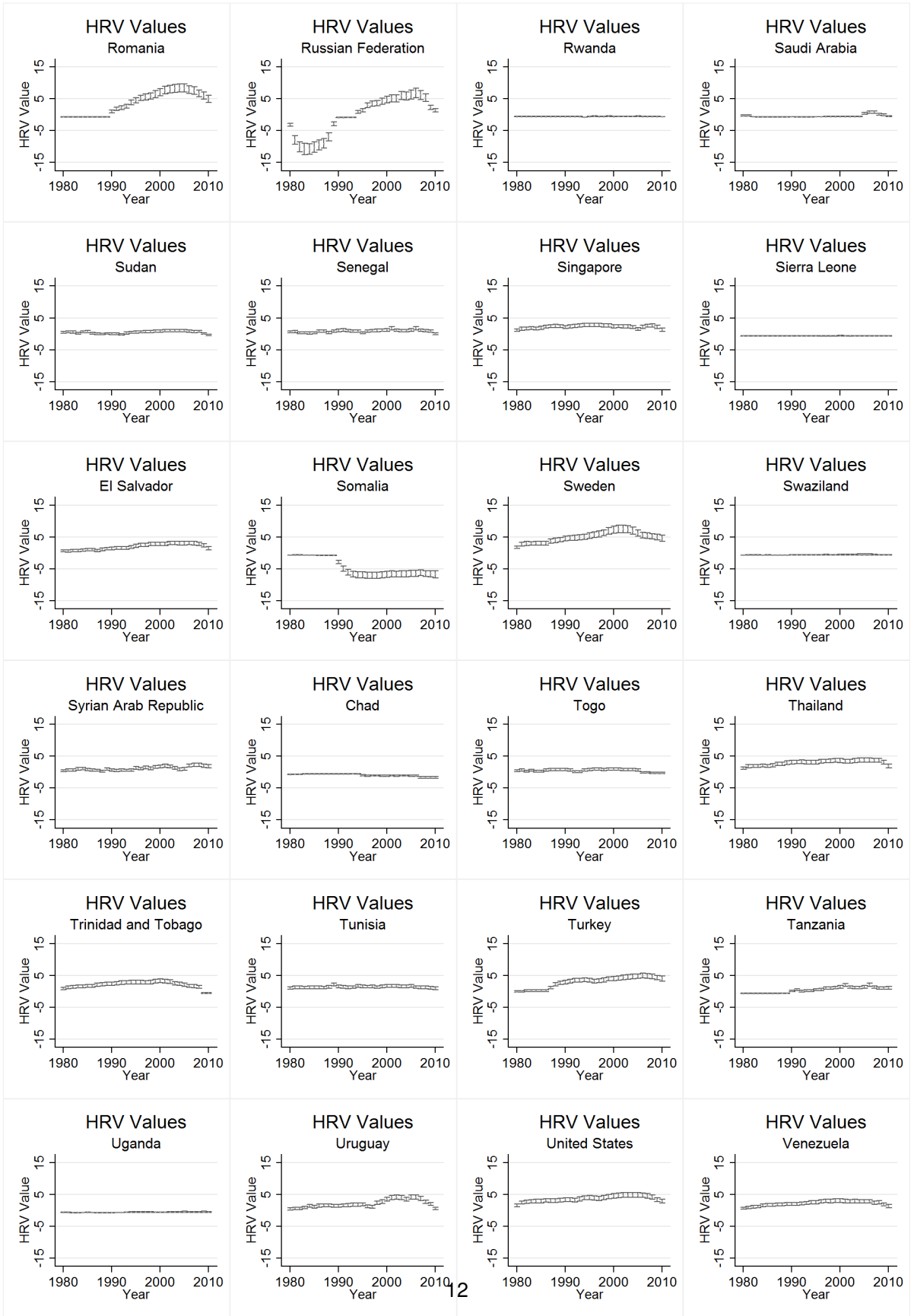
B Time Series Plots, By Country

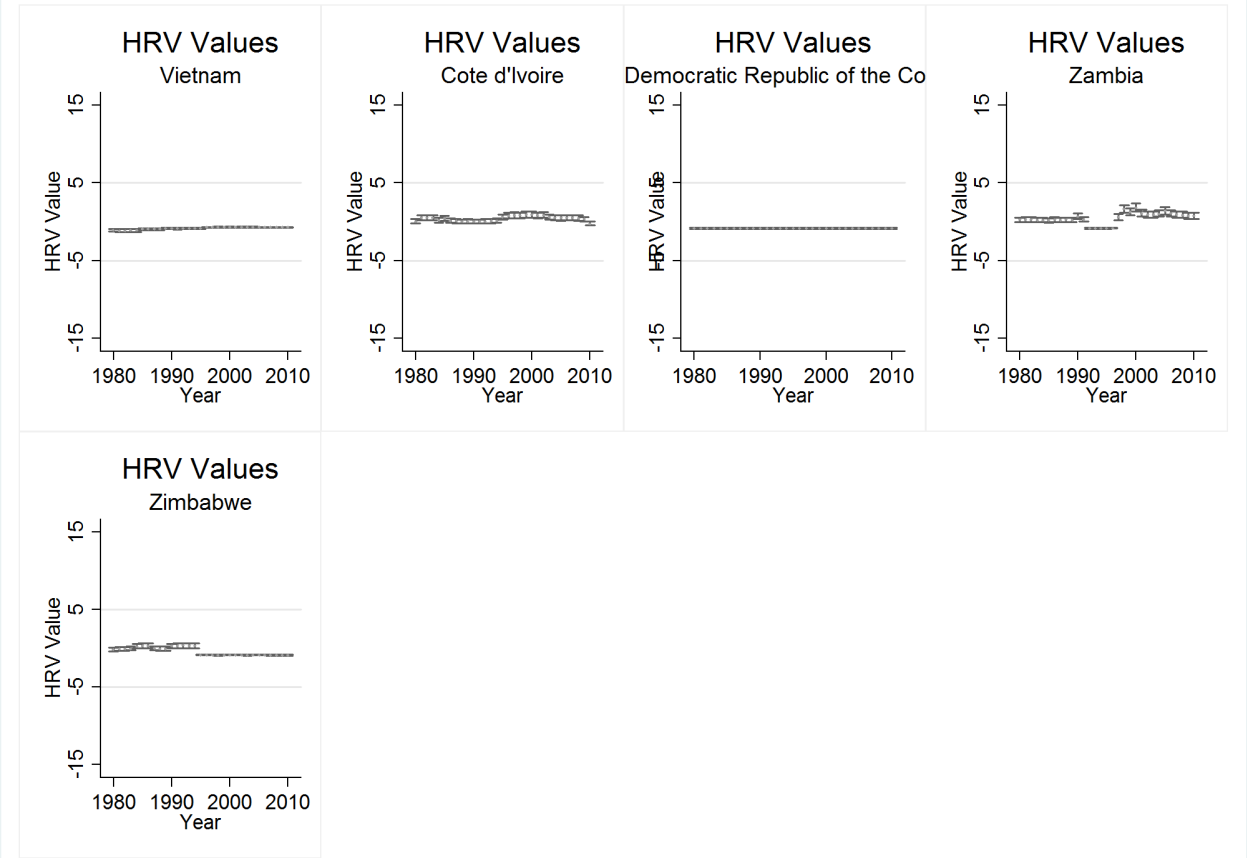



HRV Values
Colombia
Costa Rica
Cuba
Cyprus
Denmark
Dominican Republic
Algeria
Ecuador
Egypt
Spain
Ethiopia
Finland
Fiji
France
Gabon
United Kingdom
Ghana
Guinea
The Gambia
Guinea-Bissau
Greece
Guatemala
Guyana
Honduras
HRV Value
-15
-5
5
15
1980
1990
2000
2010
Year


HRV Values
Haiti
Hungary
Indonesia
India
Ireland
Iran
Iraq
Israel
Italy
Jamaica
Jordan
Japan
Kenya
Cambodia
South Korea
Kuwait
Lao PDR
Lebanon
Liberia
Libya
Sri Lanka
Lesotho
Morocco
Madagascar
HRV Value
-15
-5
5
15
1980
1990
2000
2010
Year


HRV Values
Mexico
HRV Values
Mali
HRV Values
Mongolia
HRV Values
Mozambique
HRV Values
Mauritania
HRV Values
Mauritius
HRV Values
Malawi
HRV Values
Malaysia
HRV Values
Niger
HRV Values
Nigeria
HRV Values
Nicaragua
HRV Values
Netherlands
HRV Values
Norway
HRV Values
Nepal
HRV Values
New Zealand
HRV Values
Oman
HRV Values
Pakistan
HRV Values
Panama
HRV Values
Peru
HRV Values
Philippines
HRV Values
Papua New Guinea
HRV Values
Poland
HRV Values
Portugal
HRV Values
Paraguay
HRV Value
-15
-5
5
15
1980
1990
2000
2010
Year


HRV Values
Romania
Russian Federation
Rwanda
Saudi Arabia
Sudan
Senegal
Singapore
Sierra Leone
El Salvador
Somalia
Sweden
Swaziland
Syrian Arab Republic
Chad
Togo
Thailand
Trinidad and Tobago
Tunisia
Turkey
Tanzania
Uganda
Uruguay
United States
Venezuela
HRV Value
-15
-5
5
15
1980
1990
2000
2010
Year



C Convergence Diagnostics

The following presents convergence diagnostics from the IRT model, for all parameters in the model. The output is directly from R, so the labeling differs slightly those presented in the paper. Parameters labeled `beta_j[1]` are the difficulty parameters δ_j from the discussion above. Parameters labeled `beta_j[2]` are the discrimination parameters β_j, where $j \in \{1, ..., 240\}$ denotes the item (WDI variable) in question. Parameters labeled `transparency[c,t]` refer to the $transparency_{c,t}$ scores – where $c \in \{1, ..., 125\}$ denotes a given country and $t \in \{1, ..., 31\}$ denotes a given year from 1980 ($t = 1$) to 2010 ($t = 31$). And variables labeled `tau[c]` are the country specific variance parameters $\frac{1}{\tau_c}$ from the model above.

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta1[1]	1.01
beta1[2]	1.00
beta10[1]	1.01
beta10[2]	1.01
beta100[1]	1.02
beta100[2]	1.01
beta101[1]	1.02
beta101[2]	1.01
beta102[1]	1.01
beta102[2]	1.00
beta103[1]	1.03
beta103[2]	1.00
beta104[1]	1.02
beta104[2]	1.00
beta105[1]	1.01
beta105[2]	1.00
beta106[1]	1.01
beta106[2]	1.00
beta107[1]	1.00
beta107[2]	1.00
beta108[1]	1.01
beta108[2]	1.00
beta109[1]	1.00
beta109[2]	1.00
beta11[1]	1.00
beta11[2]	1.00
beta110[1]	1.01
beta110[2]	1.00
beta111[1]	1.05
beta111[2]	1.03
beta112[1]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta112[2]	1.01
beta113[1]	1.00
beta113[2]	1.00
beta114[1]	1.04
beta114[2]	1.01
beta115[1]	1.02
beta115[2]	1.00
beta116[1]	1.00
beta116[2]	1.01
beta117[1]	1.01
beta117[2]	1.00
beta118[1]	1.00
beta118[2]	1.00
beta119[1]	1.00
beta119[2]	1.00
beta12[1]	1.07
beta12[2]	1.05
beta120[1]	1.01
beta120[2]	1.00
beta121[1]	1.01
beta121[2]	1.01
beta122[1]	1.01
beta122[2]	1.00
beta123[1]	1.01
beta123[2]	1.00
beta124[1]	1.01
beta124[2]	1.00
beta125[1]	1.02
beta125[2]	1.01
beta126[1]	1.00
beta126[2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta127[1]	1.01
beta127[2]	1.01
beta128[1]	1.01
beta128[2]	1.02
beta129[1]	1.01
beta129[2]	1.00
beta13[1]	1.00
beta13[2]	1.00
beta130[1]	1.00
beta130[2]	1.00
beta131[1]	1.01
beta131[2]	1.00
beta132[1]	1.00
beta132[2]	1.00
beta133[1]	1.00
beta133[2]	1.01
beta134[1]	1.00
beta134[2]	1.00
beta135[1]	1.00
beta135[2]	1.00
beta136[1]	1.00
beta136[2]	1.00
beta137[1]	1.03
beta137[2]	1.01
beta138[1]	1.04
beta138[2]	1.00
beta139[1]	1.02
beta139[2]	1.00
beta14[1]	1.00
beta14[2]	1.00
beta140[1]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta140[2]	1.00
beta141[1]	1.00
beta141[2]	1.00
beta142[1]	1.00
beta142[2]	1.00
beta143[1]	1.00
beta143[2]	1.00
beta144[1]	1.00
beta144[2]	1.00
beta145[1]	1.01
beta145[2]	1.00
beta146[1]	1.00
beta146[2]	1.01
beta147[1]	1.00
beta147[2]	1.00
beta148[1]	1.01
beta148[2]	1.01
beta149[1]	1.00
beta149[2]	1.01
beta15[1]	1.02
beta15[2]	1.02
beta150[1]	1.00
beta150[2]	1.00
beta151[1]	1.01
beta151[2]	1.00
beta152[1]	1.02
beta152[2]	1.00
beta153[1]	1.00
beta153[2]	1.00
beta154[1]	1.01
beta154[2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta155[1]	1.02
beta155[2]	1.00
beta156[1]	1.01
beta156[2]	1.01
beta157[1]	1.01
beta157[2]	1.00
beta158[1]	1.01
beta158[2]	1.01
beta159[1]	1.02
beta159[2]	1.01
beta16[1]	1.03
beta16[2]	1.01
beta160[1]	1.03
beta160[2]	1.01
beta161[1]	1.01
beta161[2]	1.00
beta162[1]	1.00
beta162[2]	1.01
beta163[1]	1.01
beta163[2]	1.00
beta164[1]	1.02
beta164[2]	1.01
beta165[1]	1.01
beta165[2]	1.00
beta166[1]	1.02
beta166[2]	1.01
beta167[1]	1.01
beta167[2]	1.00
beta168[1]	1.00
beta168[2]	1.00
beta169[1]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta169[2]	1.01
beta17[1]	1.01
beta17[2]	1.01
beta170[1]	1.01
beta170[2]	1.00
beta171[1]	1.01
beta171[2]	1.00
beta172[1]	1.00
beta172[2]	1.01
beta173[1]	1.01
beta173[2]	1.00
beta174[1]	1.00
beta174[2]	1.01
beta175[1]	1.00
beta175[2]	1.00
beta176[1]	1.00
beta176[2]	1.00
beta177[1]	1.00
beta177[2]	1.01
beta178[1]	1.00
beta178[2]	1.00
beta179[1]	1.00
beta179[2]	1.00
beta18[1]	1.00
beta18[2]	1.01
beta180[1]	1.00
beta180[2]	1.00
beta181[1]	1.01
beta181[2]	1.00
beta182[1]	1.01
beta182[2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta183[1]	1.01
beta183[2]	1.00
beta184[1]	1.00
beta184[2]	1.00
beta185[1]	1.00
beta185[2]	1.00
beta186[1]	1.01
beta186[2]	1.00
beta187[1]	1.00
beta187[2]	1.01
beta188[1]	1.00
beta188[2]	1.01
beta189[1]	1.00
beta189[2]	1.00
beta19[1]	1.01
beta19[2]	1.00
beta190[1]	1.00
beta190[2]	1.00
beta191[1]	1.00
beta191[2]	1.01
beta192[1]	1.01
beta192[2]	1.01
beta193[1]	1.00
beta193[2]	1.00
beta194[1]	1.00
beta194[2]	1.01
beta195[1]	1.00
beta195[2]	1.02
beta196[1]	1.00
beta196[2]	1.01
beta197[1]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta197[2]	1.00
beta198[1]	1.00
beta198[2]	1.01
beta199[1]	1.00
beta199[2]	1.00
beta2[1]	1.02
beta2[2]	1.01
beta20[1]	1.01
beta20[2]	1.03
beta200[1]	1.00
beta200[2]	1.00
beta201[1]	1.00
beta201[2]	1.00
beta202[1]	1.00
beta202[2]	1.01
beta203[1]	1.00
beta203[2]	1.00
beta204[1]	1.02
beta204[2]	1.00
beta205[1]	1.00
beta205[2]	1.01
beta206[1]	1.00
beta206[2]	1.01
beta207[1]	1.00
beta207[2]	1.00
beta208[1]	1.00
beta208[2]	1.00
beta209[1]	1.01
beta209[2]	1.00
beta21[1]	1.02
beta21[2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta210[1]	1.00
beta210[2]	1.00
beta211[1]	1.00
beta211[2]	1.00
beta212[1]	1.01
beta212[2]	1.00
beta213[1]	1.00
beta213[2]	1.00
beta214[1]	1.00
beta214[2]	1.02
beta215[1]	1.00
beta215[2]	1.00
beta216[1]	1.01
beta216[2]	1.00
beta217[1]	1.00
beta217[2]	1.00
beta218[1]	1.00
beta218[2]	1.02
beta219[1]	1.00
beta219[2]	1.00
beta22[1]	1.00
beta22[2]	1.01
beta220[1]	1.04
beta220[2]	1.00
beta221[1]	1.01
beta221[2]	1.01
beta222[1]	1.00
beta222[2]	1.01
beta223[1]	1.01
beta223[2]	1.01
beta224[1]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta224[2]	1.01
beta225[1]	1.03
beta225[2]	1.02
beta226[1]	1.01
beta226[2]	1.00
beta227[1]	1.01
beta227[2]	1.00
beta228[1]	1.01
beta228[2]	1.02
beta229[1]	1.00
beta229[2]	1.01
beta23[1]	1.00
beta23[2]	1.01
beta230[1]	1.01
beta230[2]	1.02
beta231[1]	1.00
beta231[2]	1.02
beta232[1]	1.01
beta232[2]	1.00
beta233[1]	1.03
beta233[2]	1.00
beta234[1]	1.01
beta234[2]	1.01
beta235[1]	1.01
beta235[2]	1.01
beta236[1]	1.00
beta236[2]	1.00
beta237[1]	1.00
beta237[2]	1.01
beta238[1]	1.01
beta238[2]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta239[1]	1.01
beta239[2]	1.01
beta24[1]	1.00
beta24[2]	1.00
beta240[1]	1.01
beta240[2]	1.00
beta25[1]	1.00
beta25[2]	1.00
beta26[1]	1.01
beta26[2]	1.00
beta27[1]	1.01
beta27[2]	1.00
beta28[1]	1.01
beta28[2]	1.00
beta29[1]	1.02
beta29[2]	1.00
beta3[1]	1.03
beta3[2]	1.01
beta30[1]	1.00
beta30[2]	1.00
beta31[1]	1.01
beta31[2]	1.01
beta32[1]	1.00
beta32[2]	1.01
beta33[1]	1.00
beta33[2]	1.00
beta34[1]	1.01
beta34[2]	1.00
beta35[1]	1.00
beta35[2]	1.00
beta36[1]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta36[2]	1.00
beta37[1]	1.03
beta37[2]	1.01
beta38[1]	1.02
beta38[2]	1.00
beta39[1]	1.00
beta39[2]	1.01
beta4[1]	1.00
beta4[2]	1.01
beta40[1]	1.01
beta40[2]	1.00
beta41[1]	1.01
beta41[2]	1.01
beta42[1]	1.01
beta42[2]	1.00
beta43[1]	1.02
beta43[2]	1.05
beta44[1]	1.02
beta44[2]	1.04
beta45[1]	1.01
beta45[2]	1.03
beta46[1]	1.01
beta46[2]	1.00
beta47[1]	1.00
beta47[2]	1.01
beta48[1]	1.01
beta48[2]	1.02
beta49[1]	1.00
beta49[2]	1.00
beta5[1]	1.00
beta5[2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta50[1]	1.00
beta50[2]	1.00
beta51[1]	1.00
beta51[2]	1.00
beta52[1]	1.00
beta52[2]	1.01
beta53[1]	1.00
beta53[2]	1.00
beta54[1]	1.00
beta54[2]	1.00
beta55[1]	1.03
beta55[2]	1.02
beta56[1]	1.01
beta56[2]	1.00
beta57[1]	1.01
beta57[2]	1.00
beta58[1]	1.02
beta58[2]	1.00
beta59[1]	1.05
beta59[2]	1.03
beta6[1]	1.01
beta6[2]	1.00
beta60[1]	1.03
beta60[2]	1.01
beta61[1]	1.02
beta61[2]	1.00
beta62[1]	1.00
beta62[2]	1.00
beta63[1]	1.01
beta63[2]	1.01
beta64[1]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta64[2]	1.01
beta65[1]	1.02
beta65[2]	1.01
beta66[1]	1.02
beta66[2]	1.00
beta67[1]	1.00
beta67[2]	1.01
beta68[1]	1.00
beta68[2]	1.03
beta69[1]	1.06
beta69[2]	1.00
beta7[1]	1.00
beta7[2]	1.00
beta70[1]	1.00
beta70[2]	1.02
beta71[1]	1.02
beta71[2]	1.00
beta72[1]	1.01
beta72[2]	1.00
beta73[1]	1.04
beta73[2]	1.02
beta74[1]	1.00
beta74[2]	1.00
beta75[1]	1.00
beta75[2]	1.01
beta76[1]	1.00
beta76[2]	1.01
beta77[1]	1.00
beta77[2]	1.01
beta78[1]	1.00
beta78[2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta79[1]	1.01
beta79[2]	1.00
beta8[1]	1.07
beta8[2]	1.05
beta80[1]	1.05
beta80[2]	1.01
beta81[1]	1.00
beta81[2]	1.00
beta82[1]	1.02
beta82[2]	1.01
beta83[1]	1.00
beta83[2]	1.00
beta84[1]	1.01
beta84[2]	1.01
beta85[1]	1.03
beta85[2]	1.01
beta86[1]	1.00
beta86[2]	1.00
beta87[1]	1.02
beta87[2]	1.01
beta88[1]	1.00
beta88[2]	1.00
beta89[1]	1.02
beta89[2]	1.01
beta9[1]	1.00
beta9[2]	1.00
beta90[1]	1.00
beta90[2]	1.01
beta91[1]	1.03
beta91[2]	1.00
beta92[1]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
beta92[2]	1.00
beta93[1]	1.03
beta93[2]	1.00
beta94[1]	1.01
beta94[2]	1.00
beta95[1]	1.02
beta95[2]	1.00
beta96[1]	1.00
beta96[2]	1.00
beta97[1]	1.01
beta97[2]	1.01
beta98[1]	1.02
beta98[2]	1.01
beta99[1]	1.00
beta99[2]	1.00
deviance	1.00
tau[1]	1.00
tau[2]	1.00
tau[3]	1.00
tau[4]	1.00
tau[5]	1.00
tau[6]	1.00
tau[7]	1.00
tau[8]	1.00
tau[9]	1.00
tau[10]	1.00
tau[11]	1.00
tau[12]	1.00
tau[13]	1.00
tau[14]	1.00
tau[15]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
tau[16]	1.00
tau[17]	1.00
tau[18]	1.00
tau[19]	1.00
tau[20]	1.00
tau[21]	1.00
tau[22]	1.00
tau[23]	1.00
tau[24]	1.00
tau[25]	1.00
tau[26]	1.00
tau[27]	1.00
tau[28]	1.00
tau[29]	1.00
tau[30]	1.00
tau[31]	1.00
tau[32]	1.00
tau[33]	1.00
tau[34]	1.00
tau[35]	1.00
tau[36]	1.00
tau[37]	1.00
tau[38]	1.00
tau[39]	1.00
tau[40]	1.00
tau[41]	1.00
tau[42]	1.00
tau[43]	1.00
tau[44]	1.00
tau[45]	1.00
tau[46]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
tau[47]	1.00
tau[48]	1.00
tau[49]	1.00
tau[50]	1.00
tau[51]	1.00
tau[52]	1.00
tau[53]	1.00
tau[54]	1.00
tau[55]	1.00
tau[56]	1.00
tau[57]	1.00
tau[58]	1.00
tau[59]	1.00
tau[60]	1.00
tau[61]	1.00
tau[62]	1.00
tau[63]	1.00
tau[64]	1.00
tau[65]	1.00
tau[66]	1.00
tau[67]	1.00
tau[68]	1.00
tau[69]	1.00
tau[70]	1.00
tau[71]	1.00
tau[72]	1.00
tau[73]	1.00
tau[74]	1.00
tau[75]	1.00
tau[76]	1.00
tau[77]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
tau[78]	1.00
tau[79]	1.00
tau[80]	1.00
tau[81]	1.00
tau[82]	1.00
tau[83]	1.00
tau[84]	1.00
tau[85]	1.00
tau[86]	1.00
tau[87]	1.00
tau[88]	1.00
tau[89]	1.00
tau[90]	1.00
tau[91]	1.00
tau[92]	1.00
tau[93]	1.00
tau[94]	1.00
tau[95]	1.00
tau[96]	1.00
tau[97]	1.00
tau[98]	1.01
tau[99]	1.00
tau[100]	1.00
tau[101]	1.00
tau[102]	1.00
tau[103]	1.00
tau[104]	1.00
tau[105]	1.00
tau[106]	1.00
tau[107]	1.00
tau[108]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
tau[109]	1.00
tau[110]	1.00
tau[111]	1.00
tau[112]	1.00
tau[113]	1.00
tau[114]	1.00
tau[115]	1.00
tau[116]	1.00
tau[117]	1.00
tau[118]	1.00
tau[119]	1.00
tau[120]	1.00
tau[121]	1.00
tau[122]	1.00
tau[123]	1.00
tau[124]	1.00
tau[125]	1.00
transparency[1,1]	1.04
transparency[2,1]	1.00
transparency[3,1]	1.03
transparency[4,1]	1.01
transparency[5,1]	1.00
transparency[6,1]	1.00
transparency[7,1]	1.00
transparency[8,1]	1.00
transparency[9,1]	1.03
transparency[10,1]	1.00
transparency[11,1]	1.00
transparency[12,1]	1.00
transparency[13,1]	1.00
transparency[14,1]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[15,1]	1.00
transparency[16,1]	1.01
transparency[17,1]	1.01
transparency[18,1]	1.00
transparency[19,1]	1.00
transparency[20,1]	1.00
transparency[21,1]	1.02
transparency[22,1]	1.00
transparency[23,1]	1.00
transparency[24,1]	1.00
transparency[25,1]	1.00
transparency[26,1]	1.00
transparency[27,1]	1.01
transparency[28,1]	1.00
transparency[29,1]	1.01
transparency[30,1]	1.00
transparency[31,1]	1.00
transparency[32,1]	1.00
transparency[33,1]	1.00
transparency[34,1]	1.00
transparency[35,1]	1.03
transparency[36,1]	1.00
transparency[37,1]	1.01
transparency[38,1]	1.00
transparency[39,1]	1.00
transparency[40,1]	1.00
transparency[41,1]	1.00
transparency[42,1]	1.00
transparency[43,1]	1.01
transparency[44,1]	1.01
transparency[45,1]	1.02

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[46,1]	1.00
transparency[47,1]	1.00
transparency[48,1]	1.00
transparency[49,1]	1.02
transparency[50,1]	1.02
transparency[51,1]	1.01
transparency[52,1]	1.00
transparency[53,1]	1.00
transparency[54,1]	1.00
transparency[55,1]	1.00
transparency[56,1]	1.00
transparency[57,1]	1.00
transparency[58,1]	1.00
transparency[59,1]	1.00
transparency[60,1]	1.00
transparency[61,1]	1.00
transparency[62,1]	1.00
transparency[63,1]	1.00
transparency[64,1]	1.00
transparency[65,1]	1.01
transparency[66,1]	1.00
transparency[67,1]	1.03
transparency[68,1]	1.03
transparency[69,1]	1.00
transparency[70,1]	1.00
transparency[71,1]	1.00
transparency[72,1]	1.00
transparency[73,1]	1.00
transparency[74,1]	1.00
transparency[75,1]	1.00
transparency[76,1]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[77,1]	1.01
transparency[78,1]	1.01
transparency[79,1]	1.00
transparency[80,1]	1.00
transparency[81,1]	1.01
transparency[82,1]	1.01
transparency[83,1]	1.00
transparency[84,1]	1.00
transparency[85,1]	1.00
transparency[86,1]	1.00
transparency[87,1]	1.00
transparency[88,1]	1.00
transparency[89,1]	1.00
transparency[90,1]	1.00
transparency[91,1]	1.00
transparency[92,1]	1.00
transparency[93,1]	1.01
transparency[94,1]	1.02
transparency[95,1]	1.00
transparency[96,1]	1.00
transparency[97,1]	1.03
transparency[98,1]	1.01
transparency[99,1]	1.01
transparency[100,1]	1.00
transparency[101,1]	1.00
transparency[102,1]	1.01
transparency[103,1]	1.00
transparency[104,1]	1.01
transparency[105,1]	1.00
transparency[106,1]	1.01
transparency[107,1]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[108,1]	1.04
transparency[109,1]	1.00
transparency[110,1]	1.02
transparency[111,1]	1.00
transparency[112,1]	1.00
transparency[113,1]	1.00
transparency[114,1]	1.00
transparency[115,1]	1.00
transparency[116,1]	1.02
transparency[117,1]	1.03
transparency[118,1]	1.00
transparency[119,1]	1.00
transparency[120,1]	1.00
transparency[121,1]	1.00
transparency[122,1]	1.00
transparency[123,1]	1.01
transparency[124,1]	1.00
transparency[125,1]	1.00
transparency[1,2]	1.04
transparency[2,2]	1.00
transparency[3,2]	1.03
transparency[4,2]	1.01
transparency[5,2]	1.01
transparency[6,2]	1.00
transparency[7,2]	1.00
transparency[8,2]	1.00
transparency[9,2]	1.03
transparency[10,2]	1.00
transparency[11,2]	1.01
transparency[12,2]	1.00
transparency[13,2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[14,2]	1.00
transparency[15,2]	1.00
transparency[16,2]	1.01
transparency[17,2]	1.01
transparency[18,2]	1.00
transparency[19,2]	1.00
transparency[20,2]	1.00
transparency[21,2]	1.01
transparency[22,2]	1.00
transparency[23,2]	1.00
transparency[24,2]	1.00
transparency[25,2]	1.00
transparency[26,2]	1.00
transparency[27,2]	1.01
transparency[28,2]	1.00
transparency[29,2]	1.00
transparency[30,2]	1.00
transparency[31,2]	1.01
transparency[32,2]	1.00
transparency[33,2]	1.00
transparency[34,2]	1.00
transparency[35,2]	1.00
transparency[36,2]	1.00
transparency[37,2]	1.00
transparency[38,2]	1.00
transparency[39,2]	1.00
transparency[40,2]	1.00
transparency[41,2]	1.00
transparency[42,2]	1.00
transparency[43,2]	1.02
transparency[44,2]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[45,2]	1.00
transparency[46,2]	1.00
transparency[47,2]	1.01
transparency[48,2]	1.00
transparency[49,2]	1.01
transparency[50,2]	1.02
transparency[51,2]	1.00
transparency[52,2]	1.00
transparency[53,2]	1.00
transparency[54,2]	1.04
transparency[55,2]	1.00
transparency[56,2]	1.00
transparency[57,2]	1.00
transparency[58,2]	1.00
transparency[59,2]	1.01
transparency[60,2]	1.01
transparency[61,2]	1.01
transparency[62,2]	1.00
transparency[63,2]	1.00
transparency[64,2]	1.00
transparency[65,2]	1.00
transparency[66,2]	1.00
transparency[67,2]	1.02
transparency[68,2]	1.04
transparency[69,2]	1.01
transparency[70,2]	1.01
transparency[71,2]	1.00
transparency[72,2]	1.00
transparency[73,2]	1.00
transparency[74,2]	1.01
transparency[75,2]	1.03

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[76,2]	1.01
transparency[77,2]	1.00
transparency[78,2]	1.00
transparency[79,2]	1.01
transparency[80,2]	1.00
transparency[81,2]	1.00
transparency[82,2]	1.01
transparency[83,2]	1.00
transparency[84,2]	1.00
transparency[85,2]	1.00
transparency[86,2]	1.00
transparency[87,2]	1.00
transparency[88,2]	1.00
transparency[89,2]	1.00
transparency[90,2]	1.00
transparency[91,2]	1.00
transparency[92,2]	1.00
transparency[93,2]	1.00
transparency[94,2]	1.05
transparency[95,2]	1.00
transparency[96,2]	1.00
transparency[97,2]	1.04
transparency[98,2]	1.01
transparency[99,2]	1.00
transparency[100,2]	1.00
transparency[101,2]	1.00
transparency[102,2]	1.00
transparency[103,2]	1.01
transparency[104,2]	1.00
transparency[105,2]	1.00
transparency[106,2]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[107,2]	1.00
transparency[108,2]	1.03
transparency[109,2]	1.00
transparency[110,2]	1.03
transparency[111,2]	1.00
transparency[112,2]	1.00
transparency[113,2]	1.00
transparency[114,2]	1.00
transparency[115,2]	1.00
transparency[116,2]	1.04
transparency[117,2]	1.01
transparency[118,2]	1.00
transparency[119,2]	1.01
transparency[120,2]	1.00
transparency[121,2]	1.00
transparency[122,2]	1.00
transparency[123,2]	1.01
transparency[124,2]	1.00
transparency[125,2]	1.00
transparency[1,3]	1.05
transparency[2,3]	1.00
transparency[3,3]	1.02
transparency[4,3]	1.00
transparency[5,3]	1.00
transparency[6,3]	1.00
transparency[7,3]	1.00
transparency[8,3]	1.00
transparency[9,3]	1.01
transparency[10,3]	1.01
transparency[11,3]	1.00
transparency[12,3]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[13,3]	1.00
transparency[14,3]	1.00
transparency[15,3]	1.00
transparency[16,3]	1.00
transparency[17,3]	1.01
transparency[18,3]	1.01
transparency[19,3]	1.00
transparency[20,3]	1.00
transparency[21,3]	1.00
transparency[22,3]	1.00
transparency[23,3]	1.00
transparency[24,3]	1.00
transparency[25,3]	1.01
transparency[26,3]	1.00
transparency[27,3]	1.01
transparency[28,3]	1.00
transparency[29,3]	1.00
transparency[30,3]	1.00
transparency[31,3]	1.00
transparency[32,3]	1.00
transparency[33,3]	1.01
transparency[34,3]	1.00
transparency[35,3]	1.00
transparency[36,3]	1.00
transparency[37,3]	1.01
transparency[38,3]	1.00
transparency[39,3]	1.01
transparency[40,3]	1.00
transparency[41,3]	1.00
transparency[42,3]	1.01
transparency[43,3]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[44,3]	1.03
transparency[45,3]	1.00
transparency[46,3]	1.00
transparency[47,3]	1.01
transparency[48,3]	1.00
transparency[49,3]	1.05
transparency[50,3]	1.01
transparency[51,3]	1.00
transparency[52,3]	1.00
transparency[53,3]	1.00
transparency[54,3]	1.01
transparency[55,3]	1.01
transparency[56,3]	1.00
transparency[57,3]	1.01
transparency[58,3]	1.00
transparency[59,3]	1.00
transparency[60,3]	1.01
transparency[61,3]	1.01
transparency[62,3]	1.01
transparency[63,3]	1.00
transparency[64,3]	1.00
transparency[65,3]	1.00
transparency[66,3]	1.01
transparency[67,3]	1.02
transparency[68,3]	1.04
transparency[69,3]	1.00
transparency[70,3]	1.00
transparency[71,3]	1.00
transparency[72,3]	1.00
transparency[73,3]	1.01
transparency[74,3]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[75,3]	1.00
transparency[76,3]	1.00
transparency[77,3]	1.00
transparency[78,3]	1.00
transparency[79,3]	1.01
transparency[80,3]	1.00
transparency[81,3]	1.00
transparency[82,3]	1.02
transparency[83,3]	1.00
transparency[84,3]	1.00
transparency[85,3]	1.01
transparency[86,3]	1.00
transparency[87,3]	1.00
transparency[88,3]	1.00
transparency[89,3]	1.00
transparency[90,3]	1.00
transparency[91,3]	1.00
transparency[92,3]	1.00
transparency[93,3]	1.01
transparency[94,3]	1.05
transparency[95,3]	1.01
transparency[96,3]	1.01
transparency[97,3]	1.05
transparency[98,3]	1.01
transparency[99,3]	1.00
transparency[100,3]	1.00
transparency[101,3]	1.00
transparency[102,3]	1.00
transparency[103,3]	1.00
transparency[104,3]	1.01
transparency[105,3]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[106,3]	1.02
transparency[107,3]	1.00
transparency[108,3]	1.02
transparency[109,3]	1.01
transparency[110,3]	1.02
transparency[111,3]	1.00
transparency[112,3]	1.00
transparency[113,3]	1.01
transparency[114,3]	1.00
transparency[115,3]	1.00
transparency[116,3]	1.03
transparency[117,3]	1.07
transparency[118,3]	1.00
transparency[119,3]	1.01
transparency[120,3]	1.01
transparency[121,3]	1.01
transparency[122,3]	1.00
transparency[123,3]	1.01
transparency[124,3]	1.00
transparency[125,3]	1.00
transparency[1,4]	1.06
transparency[2,4]	1.00
transparency[3,4]	1.02
transparency[4,4]	1.01
transparency[5,4]	1.00
transparency[6,4]	1.00
transparency[7,4]	1.00
transparency[8,4]	1.00
transparency[9,4]	1.03
transparency[10,4]	1.00
transparency[11,4]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[12,4]	1.01
transparency[13,4]	1.00
transparency[14,4]	1.00
transparency[15,4]	1.00
transparency[16,4]	1.01
transparency[17,4]	1.01
transparency[18,4]	1.01
transparency[19,4]	1.00
transparency[20,4]	1.00
transparency[21,4]	1.00
transparency[22,4]	1.00
transparency[23,4]	1.00
transparency[24,4]	1.01
transparency[25,4]	1.00
transparency[26,4]	1.01
transparency[27,4]	1.01
transparency[28,4]	1.01
transparency[29,4]	1.00
transparency[30,4]	1.00
transparency[31,4]	1.00
transparency[32,4]	1.00
transparency[33,4]	1.00
transparency[34,4]	1.00
transparency[35,4]	1.00
transparency[36,4]	1.00
transparency[37,4]	1.02
transparency[38,4]	1.00
transparency[39,4]	1.00
transparency[40,4]	1.00
transparency[41,4]	1.01
transparency[42,4]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[43,4]	1.01
transparency[44,4]	1.01
transparency[45,4]	1.00
transparency[46,4]	1.00
transparency[47,4]	1.02
transparency[48,4]	1.00
transparency[49,4]	1.02
transparency[50,4]	1.00
transparency[51,4]	1.01
transparency[52,4]	1.01
transparency[53,4]	1.00
transparency[54,4]	1.01
transparency[55,4]	1.00
transparency[56,4]	1.01
transparency[57,4]	1.00
transparency[58,4]	1.00
transparency[59,4]	1.00
transparency[60,4]	1.00
transparency[61,4]	1.00
transparency[62,4]	1.00
transparency[63,4]	1.00
transparency[64,4]	1.00
transparency[65,4]	1.00
transparency[66,4]	1.00
transparency[67,4]	1.01
transparency[68,4]	1.02
transparency[69,4]	1.00
transparency[70,4]	1.00
transparency[71,4]	1.00
transparency[72,4]	1.01
transparency[73,4]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[74,4]	1.02
transparency[75,4]	1.02
transparency[76,4]	1.00
transparency[77,4]	1.01
transparency[78,4]	1.00
transparency[79,4]	1.00
transparency[80,4]	1.00
transparency[81,4]	1.01
transparency[82,4]	1.00
transparency[83,4]	1.00
transparency[84,4]	1.00
transparency[85,4]	1.00
transparency[86,4]	1.01
transparency[87,4]	1.00
transparency[88,4]	1.00
transparency[89,4]	1.00
transparency[90,4]	1.01
transparency[91,4]	1.00
transparency[92,4]	1.00
transparency[93,4]	1.01
transparency[94,4]	1.03
transparency[95,4]	1.00
transparency[96,4]	1.00
transparency[97,4]	1.04
transparency[98,4]	1.01
transparency[99,4]	1.00
transparency[100,4]	1.01
transparency[101,4]	1.00
transparency[102,4]	1.00
transparency[103,4]	1.00
transparency[104,4]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[105,4]	1.00
transparency[106,4]	1.03
transparency[107,4]	1.01
transparency[108,4]	1.02
transparency[109,4]	1.00
transparency[110,4]	1.01
transparency[111,4]	1.00
transparency[112,4]	1.01
transparency[113,4]	1.01
transparency[114,4]	1.00
transparency[115,4]	1.00
transparency[116,4]	1.02
transparency[117,4]	1.08
transparency[118,4]	1.00
transparency[119,4]	1.01
transparency[120,4]	1.00
transparency[121,4]	1.00
transparency[122,4]	1.00
transparency[123,4]	1.01
transparency[124,4]	1.00
transparency[125,4]	1.00
transparency[1,5]	1.04
transparency[2,5]	1.00
transparency[3,5]	1.00
transparency[4,5]	1.01
transparency[5,5]	1.00
transparency[6,5]	1.00
transparency[7,5]	1.01
transparency[8,5]	1.00
transparency[9,5]	1.03
transparency[10,5]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[11,5]	1.00
transparency[12,5]	1.00
transparency[13,5]	1.00
transparency[14,5]	1.00
transparency[15,5]	1.00
transparency[16,5]	1.00
transparency[17,5]	1.01
transparency[18,5]	1.01
transparency[19,5]	1.01
transparency[20,5]	1.00
transparency[21,5]	1.00
transparency[22,5]	1.00
transparency[23,5]	1.00
transparency[24,5]	1.01
transparency[25,5]	1.00
transparency[26,5]	1.00
transparency[27,5]	1.01
transparency[28,5]	1.01
transparency[29,5]	1.02
transparency[30,5]	1.01
transparency[31,5]	1.01
transparency[32,5]	1.00
transparency[33,5]	1.00
transparency[34,5]	1.00
transparency[35,5]	1.00
transparency[36,5]	1.01
transparency[37,5]	1.00
transparency[38,5]	1.01
transparency[39,5]	1.01
transparency[40,5]	1.01
transparency[41,5]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[42,5]	1.00
transparency[43,5]	1.01
transparency[44,5]	1.02
transparency[45,5]	1.01
transparency[46,5]	1.00
transparency[47,5]	1.01
transparency[48,5]	1.00
transparency[49,5]	1.03
transparency[50,5]	1.00
transparency[51,5]	1.01
transparency[52,5]	1.01
transparency[53,5]	1.00
transparency[54,5]	1.00
transparency[55,5]	1.00
transparency[56,5]	1.00
transparency[57,5]	1.00
transparency[58,5]	1.00
transparency[59,5]	1.01
transparency[60,5]	1.00
transparency[61,5]	1.00
transparency[62,5]	1.00
transparency[63,5]	1.00
transparency[64,5]	1.00
transparency[65,5]	1.04
transparency[66,5]	1.00
transparency[67,5]	1.01
transparency[68,5]	1.03
transparency[69,5]	1.00
transparency[70,5]	1.01
transparency[71,5]	1.00
transparency[72,5]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[73,5]	1.00
transparency[74,5]	1.00
transparency[75,5]	1.01
transparency[76,5]	1.00
transparency[77,5]	1.01
transparency[78,5]	1.01
transparency[79,5]	1.00
transparency[80,5]	1.00
transparency[81,5]	1.01
transparency[82,5]	1.00
transparency[83,5]	1.00
transparency[84,5]	1.00
transparency[85,5]	1.00
transparency[86,5]	1.00
transparency[87,5]	1.00
transparency[88,5]	1.00
transparency[89,5]	1.00
transparency[90,5]	1.00
transparency[91,5]	1.00
transparency[92,5]	1.00
transparency[93,5]	1.01
transparency[94,5]	1.03
transparency[95,5]	1.00
transparency[96,5]	1.00
transparency[97,5]	1.03
transparency[98,5]	1.01
transparency[99,5]	1.00
transparency[100,5]	1.01
transparency[101,5]	1.00
transparency[102,5]	1.00
transparency[103,5]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[104,5]	1.01
transparency[105,5]	1.00
transparency[106,5]	1.02
transparency[107,5]	1.00
transparency[108,5]	1.02
transparency[109,5]	1.00
transparency[110,5]	1.01
transparency[111,5]	1.01
transparency[112,5]	1.01
transparency[113,5]	1.00
transparency[114,5]	1.00
transparency[115,5]	1.00
transparency[116,5]	1.04
transparency[117,5]	1.04
transparency[118,5]	1.00
transparency[119,5]	1.01
transparency[120,5]	1.00
transparency[121,5]	1.00
transparency[122,5]	1.00
transparency[123,5]	1.01
transparency[124,5]	1.00
transparency[125,5]	1.00
transparency[1,6]	1.04
transparency[2,6]	1.02
transparency[3,6]	1.00
transparency[4,6]	1.00
transparency[5,6]	1.00
transparency[6,6]	1.00
transparency[7,6]	1.01
transparency[8,6]	1.02
transparency[9,6]	1.03

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[10,6]	1.00
transparency[11,6]	1.01
transparency[12,6]	1.00
transparency[13,6]	1.00
transparency[14,6]	1.01
transparency[15,6]	1.00
transparency[16,6]	1.00
transparency[17,6]	1.01
transparency[18,6]	1.00
transparency[19,6]	1.01
transparency[20,6]	1.00
transparency[21,6]	1.00
transparency[22,6]	1.00
transparency[23,6]	1.01
transparency[24,6]	1.01
transparency[25,6]	1.00
transparency[26,6]	1.00
transparency[27,6]	1.01
transparency[28,6]	1.00
transparency[29,6]	1.01
transparency[30,6]	1.00
transparency[31,6]	1.00
transparency[32,6]	1.00
transparency[33,6]	1.00
transparency[34,6]	1.00
transparency[35,6]	1.00
transparency[36,6]	1.00
transparency[37,6]	1.01
transparency[38,6]	1.00
transparency[39,6]	1.00
transparency[40,6]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[41,6]	1.00
transparency[42,6]	1.00
transparency[43,6]	1.01
transparency[44,6]	1.04
transparency[45,6]	1.00
transparency[46,6]	1.00
transparency[47,6]	1.02
transparency[48,6]	1.01
transparency[49,6]	1.03
transparency[50,6]	1.00
transparency[51,6]	1.00
transparency[52,6]	1.01
transparency[53,6]	1.00
transparency[54,6]	1.02
transparency[55,6]	1.00
transparency[56,6]	1.00
transparency[57,6]	1.00
transparency[58,6]	1.00
transparency[59,6]	1.00
transparency[60,6]	1.01
transparency[61,6]	1.00
transparency[62,6]	1.01
transparency[63,6]	1.00
transparency[64,6]	1.00
transparency[65,6]	1.03
transparency[66,6]	1.00
transparency[67,6]	1.01
transparency[68,6]	1.04
transparency[69,6]	1.00
transparency[70,6]	1.01
transparency[71,6]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[72,6]	1.02
transparency[73,6]	1.00
transparency[74,6]	1.00
transparency[75,6]	1.00
transparency[76,6]	1.00
transparency[77,6]	1.01
transparency[78,6]	1.00
transparency[79,6]	1.01
transparency[80,6]	1.00
transparency[81,6]	1.02
transparency[82,6]	1.00
transparency[83,6]	1.01
transparency[84,6]	1.00
transparency[85,6]	1.00
transparency[86,6]	1.00
transparency[87,6]	1.00
transparency[88,6]	1.00
transparency[89,6]	1.00
transparency[90,6]	1.00
transparency[91,6]	1.00
transparency[92,6]	1.00
transparency[93,6]	1.01
transparency[94,6]	1.01
transparency[95,6]	1.00
transparency[96,6]	1.00
transparency[97,6]	1.04
transparency[98,6]	1.00
transparency[99,6]	1.00
transparency[100,6]	1.00
transparency[101,6]	1.00
transparency[102,6]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[103,6]	1.01
transparency[104,6]	1.00
transparency[105,6]	1.00
transparency[106,6]	1.04
transparency[107,6]	1.01
transparency[108,6]	1.02
transparency[109,6]	1.00
transparency[110,6]	1.01
transparency[111,6]	1.01
transparency[112,6]	1.00
transparency[113,6]	1.00
transparency[114,6]	1.01
transparency[115,6]	1.00
transparency[116,6]	1.03
transparency[117,6]	1.01
transparency[118,6]	1.01
transparency[119,6]	1.00
transparency[120,6]	1.00
transparency[121,6]	1.01
transparency[122,6]	1.00
transparency[123,6]	1.02
transparency[124,6]	1.01
transparency[125,6]	1.00
transparency[1,7]	1.07
transparency[2,7]	1.00
transparency[3,7]	1.01
transparency[4,7]	1.01
transparency[5,7]	1.00
transparency[6,7]	1.00
transparency[7,7]	1.00
transparency[8,7]	1.02

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[9,7]	1.03
transparency[10,7]	1.00
transparency[11,7]	1.01
transparency[12,7]	1.01
transparency[13,7]	1.00
transparency[14,7]	1.00
transparency[15,7]	1.00
transparency[16,7]	1.00
transparency[17,7]	1.00
transparency[18,7]	1.00
transparency[19,7]	1.01
transparency[20,7]	1.00
transparency[21,7]	1.00
transparency[22,7]	1.01
transparency[23,7]	1.00
transparency[24,7]	1.00
transparency[25,7]	1.00
transparency[26,7]	1.01
transparency[27,7]	1.01
transparency[28,7]	1.00
transparency[29,7]	1.01
transparency[30,7]	1.00
transparency[31,7]	1.00
transparency[32,7]	1.00
transparency[33,7]	1.01
transparency[34,7]	1.00
transparency[35,7]	1.00
transparency[36,7]	1.00
transparency[37,7]	1.01
transparency[38,7]	1.01
transparency[39,7]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[40,7]	1.00
transparency[41,7]	1.00
transparency[42,7]	1.01
transparency[43,7]	1.03
transparency[44,7]	1.06
transparency[45,7]	1.00
transparency[46,7]	1.00
transparency[47,7]	1.00
transparency[48,7]	1.00
transparency[49,7]	1.02
transparency[50,7]	1.00
transparency[51,7]	1.00
transparency[52,7]	1.01
transparency[53,7]	1.00
transparency[54,7]	1.01
transparency[55,7]	1.00
transparency[56,7]	1.00
transparency[57,7]	1.00
transparency[58,7]	1.00
transparency[59,7]	1.00
transparency[60,7]	1.00
transparency[61,7]	1.00
transparency[62,7]	1.00
transparency[63,7]	1.00
transparency[64,7]	1.00
transparency[65,7]	1.03
transparency[66,7]	1.00
transparency[67,7]	1.01
transparency[68,7]	1.01
transparency[69,7]	1.01
transparency[70,7]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[71,7]	1.00
transparency[72,7]	1.00
transparency[73,7]	1.00
transparency[74,7]	1.01
transparency[75,7]	1.00
transparency[76,7]	1.00
transparency[77,7]	1.00
transparency[78,7]	1.00
transparency[79,7]	1.01
transparency[80,7]	1.00
transparency[81,7]	1.00
transparency[82,7]	1.01
transparency[83,7]	1.00
transparency[84,7]	1.00
transparency[85,7]	1.00
transparency[86,7]	1.00
transparency[87,7]	1.00
transparency[88,7]	1.00
transparency[89,7]	1.00
transparency[90,7]	1.00
transparency[91,7]	1.01
transparency[92,7]	1.00
transparency[93,7]	1.00
transparency[94,7]	1.01
transparency[95,7]	1.01
transparency[96,7]	1.00
transparency[97,7]	1.06
transparency[98,7]	1.01
transparency[99,7]	1.01
transparency[100,7]	1.00
transparency[101,7]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[102,7]	1.00
transparency[103,7]	1.00
transparency[104,7]	1.01
transparency[105,7]	1.00
transparency[106,7]	1.06
transparency[107,7]	1.00
transparency[108,7]	1.02
transparency[109,7]	1.00
transparency[110,7]	1.02
transparency[111,7]	1.00
transparency[112,7]	1.01
transparency[113,7]	1.00
transparency[114,7]	1.00
transparency[115,7]	1.00
transparency[116,7]	1.03
transparency[117,7]	1.02
transparency[118,7]	1.00
transparency[119,7]	1.01
transparency[120,7]	1.00
transparency[121,7]	1.00
transparency[122,7]	1.00
transparency[123,7]	1.02
transparency[124,7]	1.00
transparency[125,7]	1.00
transparency[1,8]	1.05
transparency[2,8]	1.01
transparency[3,8]	1.01
transparency[4,8]	1.01
transparency[5,8]	1.00
transparency[6,8]	1.00
transparency[7,8]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[8,8]	1.00
transparency[9,8]	1.02
transparency[10,8]	1.00
transparency[11,8]	1.01
transparency[12,8]	1.00
transparency[13,8]	1.00
transparency[14,8]	1.00
transparency[15,8]	1.00
transparency[16,8]	1.00
transparency[17,8]	1.01
transparency[18,8]	1.00
transparency[19,8]	1.01
transparency[20,8]	1.00
transparency[21,8]	1.00
transparency[22,8]	1.00
transparency[23,8]	1.00
transparency[24,8]	1.00
transparency[25,8]	1.00
transparency[26,8]	1.01
transparency[27,8]	1.02
transparency[28,8]	1.00
transparency[29,8]	1.01
transparency[30,8]	1.00
transparency[31,8]	1.00
transparency[32,8]	1.00
transparency[33,8]	1.00
transparency[34,8]	1.00
transparency[35,8]	1.00
transparency[36,8]	1.00
transparency[37,8]	1.00
transparency[38,8]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[39,8]	1.00
transparency[40,8]	1.00
transparency[41,8]	1.00
transparency[42,8]	1.01
transparency[43,8]	1.02
transparency[44,8]	1.05
transparency[45,8]	1.00
transparency[46,8]	1.01
transparency[47,8]	1.00
transparency[48,8]	1.00
transparency[49,8]	1.02
transparency[50,8]	1.00
transparency[51,8]	1.00
transparency[52,8]	1.01
transparency[53,8]	1.00
transparency[54,8]	1.01
transparency[55,8]	1.01
transparency[56,8]	1.00
transparency[57,8]	1.00
transparency[58,8]	1.00
transparency[59,8]	1.00
transparency[60,8]	1.00
transparency[61,8]	1.01
transparency[62,8]	1.00
transparency[63,8]	1.01
transparency[64,8]	1.01
transparency[65,8]	1.03
transparency[66,8]	1.00
transparency[67,8]	1.02
transparency[68,8]	1.02
transparency[69,8]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[70,8]	1.01
transparency[71,8]	1.00
transparency[72,8]	1.01
transparency[73,8]	1.02
transparency[74,8]	1.00
transparency[75,8]	1.00
transparency[76,8]	1.00
transparency[77,8]	1.01
transparency[78,8]	1.00
transparency[79,8]	1.00
transparency[80,8]	1.00
transparency[81,8]	1.01
transparency[82,8]	1.02
transparency[83,8]	1.00
transparency[84,8]	1.00
transparency[85,8]	1.00
transparency[86,8]	1.00
transparency[87,8]	1.00
transparency[88,8]	1.00
transparency[89,8]	1.00
transparency[90,8]	1.00
transparency[91,8]	1.00
transparency[92,8]	1.00
transparency[93,8]	1.01
transparency[94,8]	1.01
transparency[95,8]	1.01
transparency[96,8]	1.00
transparency[97,8]	1.04
transparency[98,8]	1.00
transparency[99,8]	1.00
transparency[100,8]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[101,8]	1.00
transparency[102,8]	1.01
transparency[103,8]	1.00
transparency[104,8]	1.01
transparency[105,8]	1.00
transparency[106,8]	1.05
transparency[107,8]	1.00
transparency[108,8]	1.02
transparency[109,8]	1.00
transparency[110,8]	1.01
transparency[111,8]	1.00
transparency[112,8]	1.00
transparency[113,8]	1.00
transparency[114,8]	1.00
transparency[115,8]	1.00
transparency[116,8]	1.02
transparency[117,8]	1.08
transparency[118,8]	1.00
transparency[119,8]	1.00
transparency[120,8]	1.00
transparency[121,8]	1.00
transparency[122,8]	1.00
transparency[123,8]	1.01
transparency[124,8]	1.00
transparency[125,8]	1.00
transparency[1,9]	1.06
transparency[2,9]	1.02
transparency[3,9]	1.00
transparency[4,9]	1.00
transparency[5,9]	1.00
transparency[6,9]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[7,9]	1.00
transparency[8,9]	1.01
transparency[9,9]	1.02
transparency[10,9]	1.00
transparency[11,9]	1.01
transparency[12,9]	1.00
transparency[13,9]	1.01
transparency[14,9]	1.01
transparency[15,9]	1.00
transparency[16,9]	1.00
transparency[17,9]	1.01
transparency[18,9]	1.00
transparency[19,9]	1.01
transparency[20,9]	1.00
transparency[21,9]	1.00
transparency[22,9]	1.00
transparency[23,9]	1.00
transparency[24,9]	1.00
transparency[25,9]	1.00
transparency[26,9]	1.00
transparency[27,9]	1.01
transparency[28,9]	1.00
transparency[29,9]	1.01
transparency[30,9]	1.01
transparency[31,9]	1.00
transparency[32,9]	1.00
transparency[33,9]	1.00
transparency[34,9]	1.00
transparency[35,9]	1.00
transparency[36,9]	1.00
transparency[37,9]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[38,9]	1.00
transparency[39,9]	1.00
transparency[40,9]	1.00
transparency[41,9]	1.00
transparency[42,9]	1.01
transparency[43,9]	1.00
transparency[44,9]	1.06
transparency[45,9]	1.01
transparency[46,9]	1.01
transparency[47,9]	1.00
transparency[48,9]	1.01
transparency[49,9]	1.02
transparency[50,9]	1.00
transparency[51,9]	1.00
transparency[52,9]	1.00
transparency[53,9]	1.00
transparency[54,9]	1.00
transparency[55,9]	1.00
transparency[56,9]	1.00
transparency[57,9]	1.00
transparency[58,9]	1.00
transparency[59,9]	1.01
transparency[60,9]	1.01
transparency[61,9]	1.00
transparency[62,9]	1.00
transparency[63,9]	1.00
transparency[64,9]	1.00
transparency[65,9]	1.01
transparency[66,9]	1.00
transparency[67,9]	1.00
transparency[68,9]	1.02

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[69,9]	1.02
transparency[70,9]	1.01
transparency[71,9]	1.01
transparency[72,9]	1.01
transparency[73,9]	1.00
transparency[74,9]	1.00
transparency[75,9]	1.00
transparency[76,9]	1.00
transparency[77,9]	1.00
transparency[78,9]	1.00
transparency[79,9]	1.00
transparency[80,9]	1.00
transparency[81,9]	1.00
transparency[82,9]	1.02
transparency[83,9]	1.00
transparency[84,9]	1.00
transparency[85,9]	1.00
transparency[86,9]	1.01
transparency[87,9]	1.00
transparency[88,9]	1.00
transparency[89,9]	1.00
transparency[90,9]	1.00
transparency[91,9]	1.00
transparency[92,9]	1.00
transparency[93,9]	1.00
transparency[94,9]	1.01
transparency[95,9]	1.01
transparency[96,9]	1.00
transparency[97,9]	1.02
transparency[98,9]	1.01
transparency[99,9]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[100,9]	1.00
transparency[101,9]	1.00
transparency[102,9]	1.00
transparency[103,9]	1.00
transparency[104,9]	1.01
transparency[105,9]	1.00
transparency[106,9]	1.07
transparency[107,9]	1.01
transparency[108,9]	1.02
transparency[109,9]	1.00
transparency[110,9]	1.00
transparency[111,9]	1.00
transparency[112,9]	1.01
transparency[113,9]	1.00
transparency[114,9]	1.01
transparency[115,9]	1.00
transparency[116,9]	1.01
transparency[117,9]	1.05
transparency[118,9]	1.00
transparency[119,9]	1.00
transparency[120,9]	1.01
transparency[121,9]	1.00
transparency[122,9]	1.00
transparency[123,9]	1.00
transparency[124,9]	1.00
transparency[125,9]	1.00
transparency[1,10]	1.07
transparency[2,10]	1.01
transparency[3,10]	1.01
transparency[4,10]	1.00
transparency[5,10]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[6,10]	1.00
transparency[7,10]	1.00
transparency[8,10]	1.01
transparency[9,10]	1.02
transparency[10,10]	1.00
transparency[11,10]	1.00
transparency[12,10]	1.00
transparency[13,10]	1.01
transparency[14,10]	1.00
transparency[15,10]	1.00
transparency[16,10]	1.00
transparency[17,10]	1.00
transparency[18,10]	1.00
transparency[19,10]	1.01
transparency[20,10]	1.00
transparency[21,10]	1.00
transparency[22,10]	1.00
transparency[23,10]	1.00
transparency[24,10]	1.01
transparency[25,10]	1.00
transparency[26,10]	1.00
transparency[27,10]	1.01
transparency[28,10]	1.00
transparency[29,10]	1.00
transparency[30,10]	1.00
transparency[31,10]	1.00
transparency[32,10]	1.00
transparency[33,10]	1.01
transparency[34,10]	1.00
transparency[35,10]	1.01
transparency[36,10]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[37,10]	1.01
transparency[38,10]	1.00
transparency[39,10]	1.00
transparency[40,10]	1.00
transparency[41,10]	1.00
transparency[42,10]	1.01
transparency[43,10]	1.01
transparency[44,10]	1.01
transparency[45,10]	1.00
transparency[46,10]	1.00
transparency[47,10]	1.00
transparency[48,10]	1.00
transparency[49,10]	1.04
transparency[50,10]	1.00
transparency[51,10]	1.00
transparency[52,10]	1.00
transparency[53,10]	1.00
transparency[54,10]	1.00
transparency[55,10]	1.00
transparency[56,10]	1.00
transparency[57,10]	1.00
transparency[58,10]	1.00
transparency[59,10]	1.00
transparency[60,10]	1.01
transparency[61,10]	1.00
transparency[62,10]	1.00
transparency[63,10]	1.00
transparency[64,10]	1.00
transparency[65,10]	1.04
transparency[66,10]	1.00
transparency[67,10]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[68,10]	1.02
transparency[69,10]	1.00
transparency[70,10]	1.00
transparency[71,10]	1.00
transparency[72,10]	1.00
transparency[73,10]	1.00
transparency[74,10]	1.01
transparency[75,10]	1.00
transparency[76,10]	1.00
transparency[77,10]	1.00
transparency[78,10]	1.00
transparency[79,10]	1.00
transparency[80,10]	1.01
transparency[81,10]	1.00
transparency[82,10]	1.01
transparency[83,10]	1.00
transparency[84,10]	1.00
transparency[85,10]	1.00
transparency[86,10]	1.00
transparency[87,10]	1.00
transparency[88,10]	1.01
transparency[89,10]	1.01
transparency[90,10]	1.00
transparency[91,10]	1.00
transparency[92,10]	1.00
transparency[93,10]	1.01
transparency[94,10]	1.01
transparency[95,10]	1.01
transparency[96,10]	1.00
transparency[97,10]	1.02
transparency[98,10]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[99,10]	1.01
transparency[100,10]	1.01
transparency[101,10]	1.00
transparency[102,10]	1.00
transparency[103,10]	1.00
transparency[104,10]	1.01
transparency[105,10]	1.00
transparency[106,10]	1.07
transparency[107,10]	1.00
transparency[108,10]	1.01
transparency[109,10]	1.00
transparency[110,10]	1.01
transparency[111,10]	1.01
transparency[112,10]	1.00
transparency[113,10]	1.01
transparency[114,10]	1.00
transparency[115,10]	1.00
transparency[116,10]	1.02
transparency[117,10]	1.05
transparency[118,10]	1.01
transparency[119,10]	1.00
transparency[120,10]	1.00
transparency[121,10]	1.01
transparency[122,10]	1.00
transparency[123,10]	1.01
transparency[124,10]	1.00
transparency[125,10]	1.00
transparency[1,11]	1.00
transparency[2,11]	1.00
transparency[3,11]	1.00
transparency[4,11]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[5,11]	1.00
transparency[6,11]	1.00
transparency[7,11]	1.01
transparency[8,11]	1.01
transparency[9,11]	1.03
transparency[10,11]	1.01
transparency[11,11]	1.01
transparency[12,11]	1.00
transparency[13,11]	1.00
transparency[14,11]	1.00
transparency[15,11]	1.00
transparency[16,11]	1.00
transparency[17,11]	1.01
transparency[18,11]	1.00
transparency[19,11]	1.00
transparency[20,11]	1.00
transparency[21,11]	1.00
transparency[22,11]	1.00
transparency[23,11]	1.00
transparency[24,11]	1.00
transparency[25,11]	1.01
transparency[26,11]	1.00
transparency[27,11]	1.02
transparency[28,11]	1.00
transparency[29,11]	1.00
transparency[30,11]	1.01
transparency[31,11]	1.00
transparency[32,11]	1.00
transparency[33,11]	1.00
transparency[34,11]	1.00
transparency[35,11]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[36,11]	1.01
transparency[37,11]	1.00
transparency[38,11]	1.00
transparency[39,11]	1.00
transparency[40,11]	1.00
transparency[41,11]	1.00
transparency[42,11]	1.00
transparency[43,11]	1.00
transparency[44,11]	1.02
transparency[45,11]	1.00
transparency[46,11]	1.00
transparency[47,11]	1.00
transparency[48,11]	1.01
transparency[49,11]	1.02
transparency[50,11]	1.00
transparency[51,11]	1.00
transparency[52,11]	1.00
transparency[53,11]	1.00
transparency[54,11]	1.00
transparency[55,11]	1.00
transparency[56,11]	1.01
transparency[57,11]	1.01
transparency[58,11]	1.00
transparency[59,11]	1.00
transparency[60,11]	1.00
transparency[61,11]	1.01
transparency[62,11]	1.00
transparency[63,11]	1.01
transparency[64,11]	1.00
transparency[65,11]	1.04
transparency[66,11]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[67,11]	1.01
transparency[68,11]	1.03
transparency[69,11]	1.01
transparency[70,11]	1.00
transparency[71,11]	1.01
transparency[72,11]	1.00
transparency[73,11]	1.00
transparency[74,11]	1.01
transparency[75,11]	1.01
transparency[76,11]	1.00
transparency[77,11]	1.02
transparency[78,11]	1.00
transparency[79,11]	1.00
transparency[80,11]	1.00
transparency[81,11]	1.01
transparency[82,11]	1.01
transparency[83,11]	1.00
transparency[84,11]	1.00
transparency[85,11]	1.00
transparency[86,11]	1.00
transparency[87,11]	1.00
transparency[88,11]	1.00
transparency[89,11]	1.00
transparency[90,11]	1.01
transparency[91,11]	1.01
transparency[92,11]	1.00
transparency[93,11]	1.00
transparency[94,11]	1.01
transparency[95,11]	1.00
transparency[96,11]	1.00
transparency[97,11]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[98,11]	1.01
transparency[99,11]	1.01
transparency[100,11]	1.00
transparency[101,11]	1.00
transparency[102,11]	1.00
transparency[103,11]	1.00
transparency[104,11]	1.00
transparency[105,11]	1.00
transparency[106,11]	1.00
transparency[107,11]	1.00
transparency[108,11]	1.01
transparency[109,11]	1.01
transparency[110,11]	1.00
transparency[111,11]	1.00
transparency[112,11]	1.00
transparency[113,11]	1.00
transparency[114,11]	1.01
transparency[115,11]	1.00
transparency[116,11]	1.00
transparency[117,11]	1.08
transparency[118,11]	1.00
transparency[119,11]	1.01
transparency[120,11]	1.00
transparency[121,11]	1.00
transparency[122,11]	1.00
transparency[123,11]	1.00
transparency[124,11]	1.00
transparency[125,11]	1.00
transparency[1,12]	1.00
transparency[2,12]	1.00
transparency[3,12]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[4,12]	1.01
transparency[5,12]	1.00
transparency[6,12]	1.01
transparency[7,12]	1.00
transparency[8,12]	1.01
transparency[9,12]	1.02
transparency[10,12]	1.00
transparency[11,12]	1.01
transparency[12,12]	1.00
transparency[13,12]	1.00
transparency[14,12]	1.01
transparency[15,12]	1.00
transparency[16,12]	1.00
transparency[17,12]	1.01
transparency[18,12]	1.00
transparency[19,12]	1.00
transparency[20,12]	1.00
transparency[21,12]	1.00
transparency[22,12]	1.00
transparency[23,12]	1.00
transparency[24,12]	1.00
transparency[25,12]	1.01
transparency[26,12]	1.00
transparency[27,12]	1.02
transparency[28,12]	1.00
transparency[29,12]	1.00
transparency[30,12]	1.00
transparency[31,12]	1.00
transparency[32,12]	1.00
transparency[33,12]	1.00
transparency[34,12]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[35,12]	1.00
transparency[36,12]	1.00
transparency[37,12]	1.00
transparency[38,12]	1.00
transparency[39,12]	1.01
transparency[40,12]	1.00
transparency[41,12]	1.00
transparency[42,12]	1.01
transparency[43,12]	1.01
transparency[44,12]	1.01
transparency[45,12]	1.00
transparency[46,12]	1.00
transparency[47,12]	1.00
transparency[48,12]	1.00
transparency[49,12]	1.03
transparency[50,12]	1.00
transparency[51,12]	1.00
transparency[52,12]	1.01
transparency[53,12]	1.01
transparency[54,12]	1.01
transparency[55,12]	1.00
transparency[56,12]	1.00
transparency[57,12]	1.00
transparency[58,12]	1.00
transparency[59,12]	1.00
transparency[60,12]	1.01
transparency[61,12]	1.00
transparency[62,12]	1.00
transparency[63,12]	1.00
transparency[64,12]	1.00
transparency[65,12]	1.03

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[66,12]	1.01
transparency[67,12]	1.00
transparency[68,12]	1.02
transparency[69,12]	1.00
transparency[70,12]	1.00
transparency[71,12]	1.00
transparency[72,12]	1.00
transparency[73,12]	1.00
transparency[74,12]	1.00
transparency[75,12]	1.01
transparency[76,12]	1.00
transparency[77,12]	1.01
transparency[78,12]	1.00
transparency[79,12]	1.01
transparency[80,12]	1.00
transparency[81,12]	1.00
transparency[82,12]	1.02
transparency[83,12]	1.00
transparency[84,12]	1.01
transparency[85,12]	1.00
transparency[86,12]	1.00
transparency[87,12]	1.01
transparency[88,12]	1.00
transparency[89,12]	1.00
transparency[90,12]	1.00
transparency[91,12]	1.00
transparency[92,12]	1.00
transparency[93,12]	1.00
transparency[94,12]	1.01
transparency[95,12]	1.00
transparency[96,12]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[97,12]	1.01
transparency[98,12]	1.01
transparency[99,12]	1.01
transparency[100,12]	1.00
transparency[101,12]	1.00
transparency[102,12]	1.01
transparency[103,12]	1.00
transparency[104,12]	1.00
transparency[105,12]	1.00
transparency[106,12]	1.00
transparency[107,12]	1.00
transparency[108,12]	1.00
transparency[109,12]	1.00
transparency[110,12]	1.01
transparency[111,12]	1.00
transparency[112,12]	1.00
transparency[113,12]	1.00
transparency[114,12]	1.01
transparency[115,12]	1.01
transparency[116,12]	1.00
transparency[117,12]	1.01
transparency[118,12]	1.00
transparency[119,12]	1.01
transparency[120,12]	1.00
transparency[121,12]	1.00
transparency[122,12]	1.00
transparency[123,12]	1.01
transparency[124,12]	1.00
transparency[125,12]	1.00
transparency[1,13]	1.00
transparency[2,13]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[3,13]	1.00
transparency[4,13]	1.01
transparency[5,13]	1.00
transparency[6,13]	1.00
transparency[7,13]	1.00
transparency[8,13]	1.01
transparency[9,13]	1.01
transparency[10,13]	1.00
transparency[11,13]	1.01
transparency[12,13]	1.00
transparency[13,13]	1.01
transparency[14,13]	1.00
transparency[15,13]	1.00
transparency[16,13]	1.00
transparency[17,13]	1.00
transparency[18,13]	1.00
transparency[19,13]	1.00
transparency[20,13]	1.00
transparency[21,13]	1.00
transparency[22,13]	1.00
transparency[23,13]	1.00
transparency[24,13]	1.00
transparency[25,13]	1.01
transparency[26,13]	1.01
transparency[27,13]	1.01
transparency[28,13]	1.00
transparency[29,13]	1.00
transparency[30,13]	1.00
transparency[31,13]	1.01
transparency[32,13]	1.00
transparency[33,13]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[34,13]	1.01
transparency[35,13]	1.01
transparency[36,13]	1.00
transparency[37,13]	1.00
transparency[38,13]	1.00
transparency[39,13]	1.00
transparency[40,13]	1.00
transparency[41,13]	1.00
transparency[42,13]	1.00
transparency[43,13]	1.01
transparency[44,13]	1.02
transparency[45,13]	1.01
transparency[46,13]	1.00
transparency[47,13]	1.00
transparency[48,13]	1.00
transparency[49,13]	1.00
transparency[50,13]	1.00
transparency[51,13]	1.00
transparency[52,13]	1.00
transparency[53,13]	1.00
transparency[54,13]	1.02
transparency[55,13]	1.00
transparency[56,13]	1.00
transparency[57,13]	1.00
transparency[58,13]	1.00
transparency[59,13]	1.00
transparency[60,13]	1.00
transparency[61,13]	1.00
transparency[62,13]	1.08
transparency[63,13]	1.00
transparency[64,13]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[65,13]	1.02
transparency[66,13]	1.01
transparency[67,13]	1.00
transparency[68,13]	1.03
transparency[69,13]	1.00
transparency[70,13]	1.01
transparency[71,13]	1.00
transparency[72,13]	1.00
transparency[73,13]	1.00
transparency[74,13]	1.00
transparency[75,13]	1.00
transparency[76,13]	1.00
transparency[77,13]	1.01
transparency[78,13]	1.00
transparency[79,13]	1.02
transparency[80,13]	1.00
transparency[81,13]	1.00
transparency[82,13]	1.02
transparency[83,13]	1.00
transparency[84,13]	1.01
transparency[85,13]	1.01
transparency[86,13]	1.00
transparency[87,13]	1.00
transparency[88,13]	1.00
transparency[89,13]	1.00
transparency[90,13]	1.00
transparency[91,13]	1.00
transparency[92,13]	1.00
transparency[93,13]	1.00
transparency[94,13]	1.00
transparency[95,13]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[96,13]	1.00
transparency[97,13]	1.00
transparency[98,13]	1.01
transparency[99,13]	1.01
transparency[100,13]	1.00
transparency[101,13]	1.00
transparency[102,13]	1.00
transparency[103,13]	1.00
transparency[104,13]	1.01
transparency[105,13]	1.00
transparency[106,13]	1.00
transparency[107,13]	1.00
transparency[108,13]	1.00
transparency[109,13]	1.00
transparency[110,13]	1.00
transparency[111,13]	1.00
transparency[112,13]	1.01
transparency[113,13]	1.01
transparency[114,13]	1.01
transparency[115,13]	1.00
transparency[116,13]	1.00
transparency[117,13]	1.01
transparency[118,13]	1.00
transparency[119,13]	1.00
transparency[120,13]	1.00
transparency[121,13]	1.01
transparency[122,13]	1.00
transparency[123,13]	1.01
transparency[124,13]	1.01
transparency[125,13]	1.00
transparency[1,14]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[2,14]	1.00
transparency[3,14]	1.00
transparency[4,14]	1.00
transparency[5,14]	1.00
transparency[6,14]	1.00
transparency[7,14]	1.00
transparency[8,14]	1.00
transparency[9,14]	1.02
transparency[10,14]	1.00
transparency[11,14]	1.00
transparency[12,14]	1.00
transparency[13,14]	1.00
transparency[14,14]	1.00
transparency[15,14]	1.01
transparency[16,14]	1.00
transparency[17,14]	1.01
transparency[18,14]	1.00
transparency[19,14]	1.00
transparency[20,14]	1.00
transparency[21,14]	1.01
transparency[22,14]	1.00
transparency[23,14]	1.00
transparency[24,14]	1.00
transparency[25,14]	1.01
transparency[26,14]	1.00
transparency[27,14]	1.01
transparency[28,14]	1.00
transparency[29,14]	1.00
transparency[30,14]	1.00
transparency[31,14]	1.03
transparency[32,14]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[33,14]	1.00
transparency[34,14]	1.00
transparency[35,14]	1.01
transparency[36,14]	1.00
transparency[37,14]	1.01
transparency[38,14]	1.00
transparency[39,14]	1.00
transparency[40,14]	1.01
transparency[41,14]	1.00
transparency[42,14]	1.01
transparency[43,14]	1.00
transparency[44,14]	1.02
transparency[45,14]	1.00
transparency[46,14]	1.01
transparency[47,14]	1.01
transparency[48,14]	1.00
transparency[49,14]	1.01
transparency[50,14]	1.00
transparency[51,14]	1.01
transparency[52,14]	1.00
transparency[53,14]	1.00
transparency[54,14]	1.00
transparency[55,14]	1.00
transparency[56,14]	1.00
transparency[57,14]	1.00
transparency[58,14]	1.01
transparency[59,14]	1.01
transparency[60,14]	1.00
transparency[61,14]	1.00
transparency[62,14]	1.03
transparency[63,14]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[64,14]	1.00
transparency[65,14]	1.02
transparency[66,14]	1.00
transparency[67,14]	1.00
transparency[68,14]	1.03
transparency[69,14]	1.00
transparency[70,14]	1.00
transparency[71,14]	1.00
transparency[72,14]	1.00
transparency[73,14]	1.00
transparency[74,14]	1.01
transparency[75,14]	1.00
transparency[76,14]	1.00
transparency[77,14]	1.01
transparency[78,14]	1.00
transparency[79,14]	1.01
transparency[80,14]	1.00
transparency[81,14]	1.01
transparency[82,14]	1.02
transparency[83,14]	1.00
transparency[84,14]	1.00
transparency[85,14]	1.01
transparency[86,14]	1.00
transparency[87,14]	1.01
transparency[88,14]	1.00
transparency[89,14]	1.00
transparency[90,14]	1.00
transparency[91,14]	1.00
transparency[92,14]	1.00
transparency[93,14]	1.01
transparency[94,14]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[95,14]	1.00
transparency[96,14]	1.00
transparency[97,14]	1.00
transparency[98,14]	1.02
transparency[99,14]	1.01
transparency[100,14]	1.01
transparency[101,14]	1.01
transparency[102,14]	1.00
transparency[103,14]	1.00
transparency[104,14]	1.01
transparency[105,14]	1.00
transparency[106,14]	1.01
transparency[107,14]	1.00
transparency[108,14]	1.00
transparency[109,14]	1.00
transparency[110,14]	1.01
transparency[111,14]	1.00
transparency[112,14]	1.01
transparency[113,14]	1.00
transparency[114,14]	1.00
transparency[115,14]	1.01
transparency[116,14]	1.00
transparency[117,14]	1.01
transparency[118,14]	1.00
transparency[119,14]	1.00
transparency[120,14]	1.01
transparency[121,14]	1.01
transparency[122,14]	1.01
transparency[123,14]	1.01
transparency[124,14]	1.02
transparency[125,14]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[1,15]	1.00
transparency[2,15]	1.01
transparency[3,15]	1.00
transparency[4,15]	1.00
transparency[5,15]	1.00
transparency[6,15]	1.00
transparency[7,15]	1.00
transparency[8,15]	1.01
transparency[9,15]	1.03
transparency[10,15]	1.00
transparency[11,15]	1.00
transparency[12,15]	1.00
transparency[13,15]	1.00
transparency[14,15]	1.00
transparency[15,15]	1.00
transparency[16,15]	1.00
transparency[17,15]	1.02
transparency[18,15]	1.00
transparency[19,15]	1.01
transparency[20,15]	1.01
transparency[21,15]	1.00
transparency[22,15]	1.00
transparency[23,15]	1.00
transparency[24,15]	1.00
transparency[25,15]	1.00
transparency[26,15]	1.00
transparency[27,15]	1.01
transparency[28,15]	1.00
transparency[29,15]	1.01
transparency[30,15]	1.00
transparency[31,15]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[32,15]	1.01
transparency[33,15]	1.00
transparency[34,15]	1.00
transparency[35,15]	1.00
transparency[36,15]	1.00
transparency[37,15]	1.01
transparency[38,15]	1.00
transparency[39,15]	1.00
transparency[40,15]	1.01
transparency[41,15]	1.00
transparency[42,15]	1.01
transparency[43,15]	1.01
transparency[44,15]	1.03
transparency[45,15]	1.00
transparency[46,15]	1.00
transparency[47,15]	1.00
transparency[48,15]	1.00
transparency[49,15]	1.02
transparency[50,15]	1.00
transparency[51,15]	1.00
transparency[52,15]	1.00
transparency[53,15]	1.00
transparency[54,15]	1.00
transparency[55,15]	1.00
transparency[56,15]	1.00
transparency[57,15]	1.00
transparency[58,15]	1.01
transparency[59,15]	1.00
transparency[60,15]	1.00
transparency[61,15]	1.00
transparency[62,15]	1.03

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[63,15]	1.01
transparency[64,15]	1.00
transparency[65,15]	1.05
transparency[66,15]	1.01
transparency[67,15]	1.00
transparency[68,15]	1.01
transparency[69,15]	1.00
transparency[70,15]	1.01
transparency[71,15]	1.00
transparency[72,15]	1.00
transparency[73,15]	1.01
transparency[74,15]	1.00
transparency[75,15]	1.01
transparency[76,15]	1.00
transparency[77,15]	1.01
transparency[78,15]	1.00
transparency[79,15]	1.00
transparency[80,15]	1.00
transparency[81,15]	1.01
transparency[82,15]	1.01
transparency[83,15]	1.00
transparency[84,15]	1.00
transparency[85,15]	1.01
transparency[86,15]	1.00
transparency[87,15]	1.01
transparency[88,15]	1.00
transparency[89,15]	1.00
transparency[90,15]	1.00
transparency[91,15]	1.00
transparency[92,15]	1.00
transparency[93,15]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[94,15]	1.00
transparency[95,15]	1.01
transparency[96,15]	1.00
transparency[97,15]	1.00
transparency[98,15]	1.01
transparency[99,15]	1.07
transparency[100,15]	1.01
transparency[101,15]	1.00
transparency[102,15]	1.00
transparency[103,15]	1.01
transparency[104,15]	1.02
transparency[105,15]	1.00
transparency[106,15]	1.00
transparency[107,15]	1.01
transparency[108,15]	1.01
transparency[109,15]	1.00
transparency[110,15]	1.01
transparency[111,15]	1.00
transparency[112,15]	1.00
transparency[113,15]	1.00
transparency[114,15]	1.00
transparency[115,15]	1.00
transparency[116,15]	1.00
transparency[117,15]	1.00
transparency[118,15]	1.00
transparency[119,15]	1.01
transparency[120,15]	1.01
transparency[121,15]	1.01
transparency[122,15]	1.01
transparency[123,15]	1.02
transparency[124,15]	1.02

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[125,15]	1.00
transparency[1,16]	1.00
transparency[2,16]	1.01
transparency[3,16]	1.00
transparency[4,16]	1.00
transparency[5,16]	1.00
transparency[6,16]	1.00
transparency[7,16]	1.01
transparency[8,16]	1.01
transparency[9,16]	1.03
transparency[10,16]	1.01
transparency[11,16]	1.00
transparency[12,16]	1.00
transparency[13,16]	1.00
transparency[14,16]	1.00
transparency[15,16]	1.01
transparency[16,16]	1.00
transparency[17,16]	1.00
transparency[18,16]	1.00
transparency[19,16]	1.00
transparency[20,16]	1.01
transparency[21,16]	1.01
transparency[22,16]	1.01
transparency[23,16]	1.00
transparency[24,16]	1.01
transparency[25,16]	1.00
transparency[26,16]	1.00
transparency[27,16]	1.01
transparency[28,16]	1.00
transparency[29,16]	1.00
transparency[30,16]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[31,16]	1.01
transparency[32,16]	1.01
transparency[33,16]	1.00
transparency[34,16]	1.00
transparency[35,16]	1.00
transparency[36,16]	1.00
transparency[37,16]	1.01
transparency[38,16]	1.00
transparency[39,16]	1.00
transparency[40,16]	1.01
transparency[41,16]	1.00
transparency[42,16]	1.01
transparency[43,16]	1.01
transparency[44,16]	1.01
transparency[45,16]	1.00
transparency[46,16]	1.00
transparency[47,16]	1.01
transparency[48,16]	1.00
transparency[49,16]	1.02
transparency[50,16]	1.00
transparency[51,16]	1.00
transparency[52,16]	1.00
transparency[53,16]	1.00
transparency[54,16]	1.00
transparency[55,16]	1.00
transparency[56,16]	1.00
transparency[57,16]	1.01
transparency[58,16]	1.00
transparency[59,16]	1.00
transparency[60,16]	1.01
transparency[61,16]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[62,16]	1.00
transparency[63,16]	1.01
transparency[64,16]	1.00
transparency[65,16]	1.01
transparency[66,16]	1.01
transparency[67,16]	1.00
transparency[68,16]	1.02
transparency[69,16]	1.00
transparency[70,16]	1.00
transparency[71,16]	1.00
transparency[72,16]	1.00
transparency[73,16]	1.00
transparency[74,16]	1.00
transparency[75,16]	1.00
transparency[76,16]	1.00
transparency[77,16]	1.00
transparency[78,16]	1.00
transparency[79,16]	1.01
transparency[80,16]	1.00
transparency[81,16]	1.00
transparency[82,16]	1.01
transparency[83,16]	1.00
transparency[84,16]	1.01
transparency[85,16]	1.00
transparency[86,16]	1.00
transparency[87,16]	1.01
transparency[88,16]	1.00
transparency[89,16]	1.00
transparency[90,16]	1.00
transparency[91,16]	1.01
transparency[92,16]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[93,16]	1.00
transparency[94,16]	1.00
transparency[95,16]	1.01
transparency[96,16]	1.00
transparency[97,16]	1.00
transparency[98,16]	1.01
transparency[99,16]	1.00
transparency[100,16]	1.01
transparency[101,16]	1.02
transparency[102,16]	1.00
transparency[103,16]	1.00
transparency[104,16]	1.00
transparency[105,16]	1.00
transparency[106,16]	1.00
transparency[107,16]	1.00
transparency[108,16]	1.00
transparency[109,16]	1.00
transparency[110,16]	1.00
transparency[111,16]	1.00
transparency[112,16]	1.00
transparency[113,16]	1.00
transparency[114,16]	1.00
transparency[115,16]	1.01
transparency[116,16]	1.00
transparency[117,16]	1.00
transparency[118,16]	1.00
transparency[119,16]	1.01
transparency[120,16]	1.01
transparency[121,16]	1.01
transparency[122,16]	1.00
transparency[123,16]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[124,16]	1.01
transparency[125,16]	1.01
transparency[1,17]	1.00
transparency[2,17]	1.00
transparency[3,17]	1.00
transparency[4,17]	1.01
transparency[5,17]	1.01
transparency[6,17]	1.00
transparency[7,17]	1.01
transparency[8,17]	1.01
transparency[9,17]	1.03
transparency[10,17]	1.00
transparency[11,17]	1.00
transparency[12,17]	1.00
transparency[13,17]	1.00
transparency[14,17]	1.01
transparency[15,17]	1.00
transparency[16,17]	1.00
transparency[17,17]	1.00
transparency[18,17]	1.00
transparency[19,17]	1.00
transparency[20,17]	1.00
transparency[21,17]	1.01
transparency[22,17]	1.00
transparency[23,17]	1.00
transparency[24,17]	1.00
transparency[25,17]	1.00
transparency[26,17]	1.00
transparency[27,17]	1.01
transparency[28,17]	1.00
transparency[29,17]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[30,17]	1.00
transparency[31,17]	1.03
transparency[32,17]	1.00
transparency[33,17]	1.01
transparency[34,17]	1.00
transparency[35,17]	1.00
transparency[36,17]	1.00
transparency[37,17]	1.00
transparency[38,17]	1.01
transparency[39,17]	1.00
transparency[40,17]	1.01
transparency[41,17]	1.00
transparency[42,17]	1.01
transparency[43,17]	1.00
transparency[44,17]	1.03
transparency[45,17]	1.00
transparency[46,17]	1.00
transparency[47,17]	1.02
transparency[48,17]	1.00
transparency[49,17]	1.01
transparency[50,17]	1.00
transparency[51,17]	1.00
transparency[52,17]	1.00
transparency[53,17]	1.00
transparency[54,17]	1.01
transparency[55,17]	1.00
transparency[56,17]	1.01
transparency[57,17]	1.01
transparency[58,17]	1.00
transparency[59,17]	1.00
transparency[60,17]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[61,17]	1.00
transparency[62,17]	1.00
transparency[63,17]	1.00
transparency[64,17]	1.00
transparency[65,17]	1.03
transparency[66,17]	1.01
transparency[67,17]	1.00
transparency[68,17]	1.00
transparency[69,17]	1.00
transparency[70,17]	1.00
transparency[71,17]	1.00
transparency[72,17]	1.00
transparency[73,17]	1.00
transparency[74,17]	1.01
transparency[75,17]	1.00
transparency[76,17]	1.00
transparency[77,17]	1.00
transparency[78,17]	1.00
transparency[79,17]	1.00
transparency[80,17]	1.00
transparency[81,17]	1.00
transparency[82,17]	1.01
transparency[83,17]	1.00
transparency[84,17]	1.01
transparency[85,17]	1.01
transparency[86,17]	1.00
transparency[87,17]	1.01
transparency[88,17]	1.00
transparency[89,17]	1.00
transparency[90,17]	1.01
transparency[91,17]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[92,17]	1.01
transparency[93,17]	1.01
transparency[94,17]	1.00
transparency[95,17]	1.01
transparency[96,17]	1.01
transparency[97,17]	1.00
transparency[98,17]	1.00
transparency[99,17]	1.00
transparency[100,17]	1.00
transparency[101,17]	1.00
transparency[102,17]	1.00
transparency[103,17]	1.01
transparency[104,17]	1.01
transparency[105,17]	1.00
transparency[106,17]	1.01
transparency[107,17]	1.00
transparency[108,17]	1.01
transparency[109,17]	1.00
transparency[110,17]	1.00
transparency[111,17]	1.00
transparency[112,17]	1.01
transparency[113,17]	1.00
transparency[114,17]	1.00
transparency[115,17]	1.00
transparency[116,17]	1.00
transparency[117,17]	1.00
transparency[118,17]	1.01
transparency[119,17]	1.01
transparency[120,17]	1.01
transparency[121,17]	1.01
transparency[122,17]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[123,17]	1.01
transparency[124,17]	1.03
transparency[125,17]	1.02
transparency[1,18]	1.00
transparency[2,18]	1.00
transparency[3,18]	1.00
transparency[4,18]	1.00
transparency[5,18]	1.00
transparency[6,18]	1.00
transparency[7,18]	1.01
transparency[8,18]	1.00
transparency[9,18]	1.01
transparency[10,18]	1.01
transparency[11,18]	1.00
transparency[12,18]	1.00
transparency[13,18]	1.01
transparency[14,18]	1.00
transparency[15,18]	1.00
transparency[16,18]	1.00
transparency[17,18]	1.00
transparency[18,18]	1.00
transparency[19,18]	1.01
transparency[20,18]	1.01
transparency[21,18]	1.01
transparency[22,18]	1.01
transparency[23,18]	1.01
transparency[24,18]	1.01
transparency[25,18]	1.01
transparency[26,18]	1.01
transparency[27,18]	1.02
transparency[28,18]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[29,18]	1.00
transparency[30,18]	1.00
transparency[31,18]	1.02
transparency[32,18]	1.00
transparency[33,18]	1.00
transparency[34,18]	1.00
transparency[35,18]	1.00
transparency[36,18]	1.00
transparency[37,18]	1.01
transparency[38,18]	1.00
transparency[39,18]	1.00
transparency[40,18]	1.01
transparency[41,18]	1.00
transparency[42,18]	1.00
transparency[43,18]	1.00
transparency[44,18]	1.02
transparency[45,18]	1.00
transparency[46,18]	1.00
transparency[47,18]	1.00
transparency[48,18]	1.00
transparency[49,18]	1.01
transparency[50,18]	1.00
transparency[51,18]	1.00
transparency[52,18]	1.00
transparency[53,18]	1.01
transparency[54,18]	1.01
transparency[55,18]	1.00
transparency[56,18]	1.01
transparency[57,18]	1.01
transparency[58,18]	1.00
transparency[59,18]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[60,18]	1.00
transparency[61,18]	1.01
transparency[62,18]	1.00
transparency[63,18]	1.00
transparency[64,18]	1.00
transparency[65,18]	1.04
transparency[66,18]	1.01
transparency[67,18]	1.00
transparency[68,18]	1.00
transparency[69,18]	1.00
transparency[70,18]	1.00
transparency[71,18]	1.00
transparency[72,18]	1.00
transparency[73,18]	1.01
transparency[74,18]	1.00
transparency[75,18]	1.00
transparency[76,18]	1.00
transparency[77,18]	1.01
transparency[78,18]	1.00
transparency[79,18]	1.01
transparency[80,18]	1.00
transparency[81,18]	1.00
transparency[82,18]	1.02
transparency[83,18]	1.00
transparency[84,18]	1.00
transparency[85,18]	1.00
transparency[86,18]	1.01
transparency[87,18]	1.01
transparency[88,18]	1.01
transparency[89,18]	1.01
transparency[90,18]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[91,18]	1.00
transparency[92,18]	1.00
transparency[93,18]	1.00
transparency[94,18]	1.00
transparency[95,18]	1.00
transparency[96,18]	1.00
transparency[97,18]	1.00
transparency[98,18]	1.00
transparency[99,18]	1.01
transparency[100,18]	1.00
transparency[101,18]	1.00
transparency[102,18]	1.00
transparency[103,18]	1.00
transparency[104,18]	1.01
transparency[105,18]	1.00
transparency[106,18]	1.00
transparency[107,18]	1.00
transparency[108,18]	1.01
transparency[109,18]	1.00
transparency[110,18]	1.00
transparency[111,18]	1.00
transparency[112,18]	1.01
transparency[113,18]	1.00
transparency[114,18]	1.00
transparency[115,18]	1.00
transparency[116,18]	1.01
transparency[117,18]	1.01
transparency[118,18]	1.00
transparency[119,18]	1.01
transparency[120,18]	1.00
transparency[121,18]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[122,18]	1.00
transparency[123,18]	1.01
transparency[124,18]	1.00
transparency[125,18]	1.01
transparency[1,19]	1.01
transparency[2,19]	1.00
transparency[3,19]	1.00
transparency[4,19]	1.01
transparency[5,19]	1.00
transparency[6,19]	1.01
transparency[7,19]	1.01
transparency[8,19]	1.01
transparency[9,19]	1.03
transparency[10,19]	1.00
transparency[11,19]	1.00
transparency[12,19]	1.00
transparency[13,19]	1.00
transparency[14,19]	1.01
transparency[15,19]	1.00
transparency[16,19]	1.01
transparency[17,19]	1.00
transparency[18,19]	1.00
transparency[19,19]	1.00
transparency[20,19]	1.00
transparency[21,19]	1.01
transparency[22,19]	1.01
transparency[23,19]	1.01
transparency[24,19]	1.00
transparency[25,19]	1.01
transparency[26,19]	1.01
transparency[27,19]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[28,19]	1.00
transparency[29,19]	1.01
transparency[30,19]	1.00
transparency[31,19]	1.02
transparency[32,19]	1.01
transparency[33,19]	1.01
transparency[34,19]	1.00
transparency[35,19]	1.01
transparency[36,19]	1.01
transparency[37,19]	1.00
transparency[38,19]	1.00
transparency[39,19]	1.00
transparency[40,19]	1.01
transparency[41,19]	1.00
transparency[42,19]	1.00
transparency[43,19]	1.00
transparency[44,19]	1.00
transparency[45,19]	1.03
transparency[46,19]	1.00
transparency[47,19]	1.00
transparency[48,19]	1.01
transparency[49,19]	1.03
transparency[50,19]	1.01
transparency[51,19]	1.00
transparency[52,19]	1.00
transparency[53,19]	1.00
transparency[54,19]	1.00
transparency[55,19]	1.00
transparency[56,19]	1.00
transparency[57,19]	1.02
transparency[58,19]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[59,19]	1.01
transparency[60,19]	1.01
transparency[61,19]	1.00
transparency[62,19]	1.01
transparency[63,19]	1.01
transparency[64,19]	1.00
transparency[65,19]	1.03
transparency[66,19]	1.03
transparency[67,19]	1.00
transparency[68,19]	1.00
transparency[69,19]	1.00
transparency[70,19]	1.01
transparency[71,19]	1.00
transparency[72,19]	1.01
transparency[73,19]	1.01
transparency[74,19]	1.01
transparency[75,19]	1.00
transparency[76,19]	1.00
transparency[77,19]	1.00
transparency[78,19]	1.00
transparency[79,19]	1.00
transparency[80,19]	1.00
transparency[81,19]	1.01
transparency[82,19]	1.01
transparency[83,19]	1.00
transparency[84,19]	1.01
transparency[85,19]	1.01
transparency[86,19]	1.00
transparency[87,19]	1.00
transparency[88,19]	1.00
transparency[89,19]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[90,19]	1.01
transparency[91,19]	1.00
transparency[92,19]	1.00
transparency[93,19]	1.00
transparency[94,19]	1.00
transparency[95,19]	1.00
transparency[96,19]	1.00
transparency[97,19]	1.00
transparency[98,19]	1.00
transparency[99,19]	1.01
transparency[100,19]	1.00
transparency[101,19]	1.00
transparency[102,19]	1.00
transparency[103,19]	1.00
transparency[104,19]	1.01
transparency[105,19]	1.00
transparency[106,19]	1.00
transparency[107,19]	1.00
transparency[108,19]	1.00
transparency[109,19]	1.00
transparency[110,19]	1.00
transparency[111,19]	1.01
transparency[112,19]	1.00
transparency[113,19]	1.00
transparency[114,19]	1.01
transparency[115,19]	1.00
transparency[116,19]	1.00
transparency[117,19]	1.00
transparency[118,19]	1.00
transparency[119,19]	1.00
transparency[120,19]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[121,19]	1.01
transparency[122,19]	1.00
transparency[123,19]	1.01
transparency[124,19]	1.00
transparency[125,19]	1.01
transparency[1,20]	1.00
transparency[2,20]	1.00
transparency[3,20]	1.00
transparency[4,20]	1.01
transparency[5,20]	1.00
transparency[6,20]	1.00
transparency[7,20]	1.01
transparency[8,20]	1.00
transparency[9,20]	1.03
transparency[10,20]	1.01
transparency[11,20]	1.00
transparency[12,20]	1.00
transparency[13,20]	1.00
transparency[14,20]	1.01
transparency[15,20]	1.00
transparency[16,20]	1.01
transparency[17,20]	1.00
transparency[18,20]	1.00
transparency[19,20]	1.00
transparency[20,20]	1.00
transparency[21,20]	1.00
transparency[22,20]	1.00
transparency[23,20]	1.00
transparency[24,20]	1.00
transparency[25,20]	1.01
transparency[26,20]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[27,20]	1.02
transparency[28,20]	1.01
transparency[29,20]	1.00
transparency[30,20]	1.00
transparency[31,20]	1.02
transparency[32,20]	1.00
transparency[33,20]	1.00
transparency[34,20]	1.01
transparency[35,20]	1.00
transparency[36,20]	1.00
transparency[37,20]	1.01
transparency[38,20]	1.01
transparency[39,20]	1.00
transparency[40,20]	1.00
transparency[41,20]	1.00
transparency[42,20]	1.00
transparency[43,20]	1.00
transparency[44,20]	1.00
transparency[45,20]	1.01
transparency[46,20]	1.00
transparency[47,20]	1.00
transparency[48,20]	1.01
transparency[49,20]	1.02
transparency[50,20]	1.00
transparency[51,20]	1.00
transparency[52,20]	1.00
transparency[53,20]	1.00
transparency[54,20]	1.01
transparency[55,20]	1.00
transparency[56,20]	1.00
transparency[57,20]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[58,20]	1.00
transparency[59,20]	1.01
transparency[60,20]	1.01
transparency[61,20]	1.00
transparency[62,20]	1.00
transparency[63,20]	1.00
transparency[64,20]	1.00
transparency[65,20]	1.02
transparency[66,20]	1.03
transparency[67,20]	1.00
transparency[68,20]	1.01
transparency[69,20]	1.00
transparency[70,20]	1.01
transparency[71,20]	1.00
transparency[72,20]	1.00
transparency[73,20]	1.01
transparency[74,20]	1.00
transparency[75,20]	1.00
transparency[76,20]	1.00
transparency[77,20]	1.00
transparency[78,20]	1.01
transparency[79,20]	1.01
transparency[80,20]	1.00
transparency[81,20]	1.00
transparency[82,20]	1.00
transparency[83,20]	1.00
transparency[84,20]	1.00
transparency[85,20]	1.00
transparency[86,20]	1.00
transparency[87,20]	1.00
transparency[88,20]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[89,20]	1.00
transparency[90,20]	1.00
transparency[91,20]	1.01
transparency[92,20]	1.01
transparency[93,20]	1.01
transparency[94,20]	1.00
transparency[95,20]	1.00
transparency[96,20]	1.01
transparency[97,20]	1.00
transparency[98,20]	1.00
transparency[99,20]	1.00
transparency[100,20]	1.00
transparency[101,20]	1.00
transparency[102,20]	1.00
transparency[103,20]	1.00
transparency[104,20]	1.00
transparency[105,20]	1.00
transparency[106,20]	1.00
transparency[107,20]	1.00
transparency[108,20]	1.00
transparency[109,20]	1.00
transparency[110,20]	1.00
transparency[111,20]	1.00
transparency[112,20]	1.00
transparency[113,20]	1.00
transparency[114,20]	1.00
transparency[115,20]	1.00
transparency[116,20]	1.00
transparency[117,20]	1.00
transparency[118,20]	1.01
transparency[119,20]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[120,20]	1.00
transparency[121,20]	1.01
transparency[122,20]	1.00
transparency[123,20]	1.01
transparency[124,20]	1.01
transparency[125,20]	1.02
transparency[1,21]	1.00
transparency[2,21]	1.00
transparency[3,21]	1.00
transparency[4,21]	1.01
transparency[5,21]	1.00
transparency[6,21]	1.00
transparency[7,21]	1.01
transparency[8,21]	1.01
transparency[9,21]	1.02
transparency[10,21]	1.00
transparency[11,21]	1.01
transparency[12,21]	1.00
transparency[13,21]	1.00
transparency[14,21]	1.00
transparency[15,21]	1.00
transparency[16,21]	1.00
transparency[17,21]	1.00
transparency[18,21]	1.00
transparency[19,21]	1.00
transparency[20,21]	1.00
transparency[21,21]	1.00
transparency[22,21]	1.00
transparency[23,21]	1.01
transparency[24,21]	1.00
transparency[25,21]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[26,21]	1.01
transparency[27,21]	1.01
transparency[28,21]	1.01
transparency[29,21]	1.00
transparency[30,21]	1.00
transparency[31,21]	1.01
transparency[32,21]	1.00
transparency[33,21]	1.00
transparency[34,21]	1.00
transparency[35,21]	1.00
transparency[36,21]	1.01
transparency[37,21]	1.00
transparency[38,21]	1.00
transparency[39,21]	1.00
transparency[40,21]	1.00
transparency[41,21]	1.00
transparency[42,21]	1.01
transparency[43,21]	1.00
transparency[44,21]	1.00
transparency[45,21]	1.01
transparency[46,21]	1.00
transparency[47,21]	1.01
transparency[48,21]	1.00
transparency[49,21]	1.01
transparency[50,21]	1.00
transparency[51,21]	1.00
transparency[52,21]	1.00
transparency[53,21]	1.00
transparency[54,21]	1.00
transparency[55,21]	1.00
transparency[56,21]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[57,21]	1.00
transparency[58,21]	1.00
transparency[59,21]	1.01
transparency[60,21]	1.00
transparency[61,21]	1.01
transparency[62,21]	1.00
transparency[63,21]	1.00
transparency[64,21]	1.00
transparency[65,21]	1.00
transparency[66,21]	1.01
transparency[67,21]	1.00
transparency[68,21]	1.01
transparency[69,21]	1.00
transparency[70,21]	1.00
transparency[71,21]	1.00
transparency[72,21]	1.01
transparency[73,21]	1.00
transparency[74,21]	1.00
transparency[75,21]	1.00
transparency[76,21]	1.00
transparency[77,21]	1.00
transparency[78,21]	1.00
transparency[79,21]	1.00
transparency[80,21]	1.00
transparency[81,21]	1.00
transparency[82,21]	1.03
transparency[83,21]	1.00
transparency[84,21]	1.00
transparency[85,21]	1.01
transparency[86,21]	1.00
transparency[87,21]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[88,21]	1.01
transparency[89,21]	1.00
transparency[90,21]	1.00
transparency[91,21]	1.00
transparency[92,21]	1.01
transparency[93,21]	1.00
transparency[94,21]	1.00
transparency[95,21]	1.01
transparency[96,21]	1.00
transparency[97,21]	1.00
transparency[98,21]	1.00
transparency[99,21]	1.02
transparency[100,21]	1.01
transparency[101,21]	1.00
transparency[102,21]	1.00
transparency[103,21]	1.00
transparency[104,21]	1.00
transparency[105,21]	1.00
transparency[106,21]	1.01
transparency[107,21]	1.00
transparency[108,21]	1.00
transparency[109,21]	1.00
transparency[110,21]	1.00
transparency[111,21]	1.00
transparency[112,21]	1.01
transparency[113,21]	1.00
transparency[114,21]	1.00
transparency[115,21]	1.00
transparency[116,21]	1.00
transparency[117,21]	1.00
transparency[118,21]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[119,21]	1.00
transparency[120,21]	1.00
transparency[121,21]	1.01
transparency[122,21]	1.00
transparency[123,21]	1.01
transparency[124,21]	1.00
transparency[125,21]	1.01
transparency[1,22]	1.00
transparency[2,22]	1.00
transparency[3,22]	1.00
transparency[4,22]	1.01
transparency[5,22]	1.01
transparency[6,22]	1.00
transparency[7,22]	1.01
transparency[8,22]	1.01
transparency[9,22]	1.03
transparency[10,22]	1.00
transparency[11,22]	1.00
transparency[12,22]	1.00
transparency[13,22]	1.00
transparency[14,22]	1.00
transparency[15,22]	1.00
transparency[16,22]	1.00
transparency[17,22]	1.00
transparency[18,22]	1.01
transparency[19,22]	1.01
transparency[20,22]	1.00
transparency[21,22]	1.00
transparency[22,22]	1.00
transparency[23,22]	1.00
transparency[24,22]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[25,22]	1.00
transparency[26,22]	1.01
transparency[27,22]	1.01
transparency[28,22]	1.00
transparency[29,22]	1.00
transparency[30,22]	1.00
transparency[31,22]	1.03
transparency[32,22]	1.00
transparency[33,22]	1.00
transparency[34,22]	1.00
transparency[35,22]	1.00
transparency[36,22]	1.01
transparency[37,22]	1.01
transparency[38,22]	1.00
transparency[39,22]	1.00
transparency[40,22]	1.00
transparency[41,22]	1.00
transparency[42,22]	1.01
transparency[43,22]	1.00
transparency[44,22]	1.03
transparency[45,22]	1.00
transparency[46,22]	1.01
transparency[47,22]	1.00
transparency[48,22]	1.00
transparency[49,22]	1.02
transparency[50,22]	1.00
transparency[51,22]	1.01
transparency[52,22]	1.00
transparency[53,22]	1.00
transparency[54,22]	1.02
transparency[55,22]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[56,22]	1.01
transparency[57,22]	1.00
transparency[58,22]	1.00
transparency[59,22]	1.01
transparency[60,22]	1.00
transparency[61,22]	1.00
transparency[62,22]	1.00
transparency[63,22]	1.00
transparency[64,22]	1.00
transparency[65,22]	1.00
transparency[66,22]	1.01
transparency[67,22]	1.00
transparency[68,22]	1.02
transparency[69,22]	1.00
transparency[70,22]	1.00
transparency[71,22]	1.00
transparency[72,22]	1.00
transparency[73,22]	1.00
transparency[74,22]	1.00
transparency[75,22]	1.01
transparency[76,22]	1.00
transparency[77,22]	1.00
transparency[78,22]	1.01
transparency[79,22]	1.01
transparency[80,22]	1.00
transparency[81,22]	1.00
transparency[82,22]	1.01
transparency[83,22]	1.00
transparency[84,22]	1.01
transparency[85,22]	1.00
transparency[86,22]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[87,22]	1.00
transparency[88,22]	1.00
transparency[89,22]	1.00
transparency[90,22]	1.01
transparency[91,22]	1.00
transparency[92,22]	1.00
transparency[93,22]	1.00
transparency[94,22]	1.00
transparency[95,22]	1.01
transparency[96,22]	1.01
transparency[97,22]	1.00
transparency[98,22]	1.00
transparency[99,22]	1.00
transparency[100,22]	1.00
transparency[101,22]	1.00
transparency[102,22]	1.00
transparency[103,22]	1.00
transparency[104,22]	1.02
transparency[105,22]	1.00
transparency[106,22]	1.01
transparency[107,22]	1.00
transparency[108,22]	1.00
transparency[109,22]	1.00
transparency[110,22]	1.00
transparency[111,22]	1.00
transparency[112,22]	1.00
transparency[113,22]	1.00
transparency[114,22]	1.00
transparency[115,22]	1.00
transparency[116,22]	1.01
transparency[117,22]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[118,22]	1.00
transparency[119,22]	1.00
transparency[120,22]	1.00
transparency[121,22]	1.01
transparency[122,22]	1.00
transparency[123,22]	1.01
transparency[124,22]	1.00
transparency[125,22]	1.02
transparency[1,23]	1.00
transparency[2,23]	1.00
transparency[3,23]	1.00
transparency[4,23]	1.01
transparency[5,23]	1.00
transparency[6,23]	1.00
transparency[7,23]	1.01
transparency[8,23]	1.00
transparency[9,23]	1.00
transparency[10,23]	1.00
transparency[11,23]	1.00
transparency[12,23]	1.00
transparency[13,23]	1.00
transparency[14,23]	1.00
transparency[15,23]	1.00
transparency[16,23]	1.01
transparency[17,23]	1.00
transparency[18,23]	1.00
transparency[19,23]	1.01
transparency[20,23]	1.00
transparency[21,23]	1.00
transparency[22,23]	1.00
transparency[23,23]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[24,23]	1.00
transparency[25,23]	1.00
transparency[26,23]	1.01
transparency[27,23]	1.02
transparency[28,23]	1.01
transparency[29,23]	1.00
transparency[30,23]	1.00
transparency[31,23]	1.03
transparency[32,23]	1.00
transparency[33,23]	1.00
transparency[34,23]	1.00
transparency[35,23]	1.01
transparency[36,23]	1.00
transparency[37,23]	1.00
transparency[38,23]	1.00
transparency[39,23]	1.00
transparency[40,23]	1.00
transparency[41,23]	1.00
transparency[42,23]	1.00
transparency[43,23]	1.00
transparency[44,23]	1.01
transparency[45,23]	1.00
transparency[46,23]	1.00
transparency[47,23]	1.00
transparency[48,23]	1.00
transparency[49,23]	1.01
transparency[50,23]	1.00
transparency[51,23]	1.01
transparency[52,23]	1.00
transparency[53,23]	1.00
transparency[54,23]	1.02

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[55,23]	1.01
transparency[56,23]	1.00
transparency[57,23]	1.00
transparency[58,23]	1.01
transparency[59,23]	1.01
transparency[60,23]	1.00
transparency[61,23]	1.00
transparency[62,23]	1.01
transparency[63,23]	1.01
transparency[64,23]	1.00
transparency[65,23]	1.01
transparency[66,23]	1.00
transparency[67,23]	1.00
transparency[68,23]	1.00
transparency[69,23]	1.00
transparency[70,23]	1.00
transparency[71,23]	1.00
transparency[72,23]	1.00
transparency[73,23]	1.00
transparency[74,23]	1.00
transparency[75,23]	1.00
transparency[76,23]	1.00
transparency[77,23]	1.00
transparency[78,23]	1.00
transparency[79,23]	1.00
transparency[80,23]	1.00
transparency[81,23]	1.00
transparency[82,23]	1.01
transparency[83,23]	1.00
transparency[84,23]	1.00
transparency[85,23]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[86,23]	1.00
transparency[87,23]	1.00
transparency[88,23]	1.00
transparency[89,23]	1.01
transparency[90,23]	1.00
transparency[91,23]	1.00
transparency[92,23]	1.00
transparency[93,23]	1.01
transparency[94,23]	1.00
transparency[95,23]	1.01
transparency[96,23]	1.01
transparency[97,23]	1.00
transparency[98,23]	1.00
transparency[99,23]	1.00
transparency[100,23]	1.00
transparency[101,23]	1.00
transparency[102,23]	1.00
transparency[103,23]	1.00
transparency[104,23]	1.01
transparency[105,23]	1.00
transparency[106,23]	1.01
transparency[107,23]	1.00
transparency[108,23]	1.00
transparency[109,23]	1.00
transparency[110,23]	1.00
transparency[111,23]	1.00
transparency[112,23]	1.00
transparency[113,23]	1.01
transparency[114,23]	1.00
transparency[115,23]	1.01
transparency[116,23]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[117,23]	1.00
transparency[118,23]	1.00
transparency[119,23]	1.00
transparency[120,23]	1.00
transparency[121,23]	1.01
transparency[122,23]	1.00
transparency[123,23]	1.01
transparency[124,23]	1.00
transparency[125,23]	1.02
transparency[1,24]	1.00
transparency[2,24]	1.00
transparency[3,24]	1.00
transparency[4,24]	1.01
transparency[5,24]	1.00
transparency[6,24]	1.00
transparency[7,24]	1.01
transparency[8,24]	1.00
transparency[9,24]	1.01
transparency[10,24]	1.00
transparency[11,24]	1.00
transparency[12,24]	1.00
transparency[13,24]	1.00
transparency[14,24]	1.00
transparency[15,24]	1.00
transparency[16,24]	1.01
transparency[17,24]	1.00
transparency[18,24]	1.00
transparency[19,24]	1.00
transparency[20,24]	1.00
transparency[21,24]	1.01
transparency[22,24]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[23,24]	1.00
transparency[24,24]	1.00
transparency[25,24]	1.01
transparency[26,24]	1.01
transparency[27,24]	1.02
transparency[28,24]	1.01
transparency[29,24]	1.01
transparency[30,24]	1.00
transparency[31,24]	1.04
transparency[32,24]	1.01
transparency[33,24]	1.00
transparency[34,24]	1.00
transparency[35,24]	1.00
transparency[36,24]	1.00
transparency[37,24]	1.00
transparency[38,24]	1.00
transparency[39,24]	1.00
transparency[40,24]	1.01
transparency[41,24]	1.00
transparency[42,24]	1.01
transparency[43,24]	1.00
transparency[44,24]	1.03
transparency[45,24]	1.00
transparency[46,24]	1.02
transparency[47,24]	1.01
transparency[48,24]	1.00
transparency[49,24]	1.02
transparency[50,24]	1.00
transparency[51,24]	1.01
transparency[52,24]	1.00
transparency[53,24]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[54,24]	1.02
transparency[55,24]	1.00
transparency[56,24]	1.00
transparency[57,24]	1.00
transparency[58,24]	1.00
transparency[59,24]	1.00
transparency[60,24]	1.00
transparency[61,24]	1.01
transparency[62,24]	1.00
transparency[63,24]	1.00
transparency[64,24]	1.00
transparency[65,24]	1.01
transparency[66,24]	1.00
transparency[67,24]	1.00
transparency[68,24]	1.00
transparency[69,24]	1.00
transparency[70,24]	1.01
transparency[71,24]	1.00
transparency[72,24]	1.00
transparency[73,24]	1.00
transparency[74,24]	1.00
transparency[75,24]	1.00
transparency[76,24]	1.01
transparency[77,24]	1.00
transparency[78,24]	1.00
transparency[79,24]	1.01
transparency[80,24]	1.00
transparency[81,24]	1.00
transparency[82,24]	1.01
transparency[83,24]	1.00
transparency[84,24]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[85,24]	1.01
transparency[86,24]	1.00
transparency[87,24]	1.00
transparency[88,24]	1.00
transparency[89,24]	1.00
transparency[90,24]	1.00
transparency[91,24]	1.00
transparency[92,24]	1.01
transparency[93,24]	1.00
transparency[94,24]	1.00
transparency[95,24]	1.00
transparency[96,24]	1.00
transparency[97,24]	1.00
transparency[98,24]	1.00
transparency[99,24]	1.00
transparency[100,24]	1.00
transparency[101,24]	1.00
transparency[102,24]	1.00
transparency[103,24]	1.00
transparency[104,24]	1.00
transparency[105,24]	1.00
transparency[106,24]	1.01
transparency[107,24]	1.00
transparency[108,24]	1.01
transparency[109,24]	1.00
transparency[110,24]	1.00
transparency[111,24]	1.00
transparency[112,24]	1.00
transparency[113,24]	1.01
transparency[114,24]	1.00
transparency[115,24]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[116,24]	1.00
transparency[117,24]	1.00
transparency[118,24]	1.00
transparency[119,24]	1.00
transparency[120,24]	1.00
transparency[121,24]	1.01
transparency[122,24]	1.00
transparency[123,24]	1.02
transparency[124,24]	1.00
transparency[125,24]	1.00
transparency[1,25]	1.00
transparency[2,25]	1.00
transparency[3,25]	1.00
transparency[4,25]	1.00
transparency[5,25]	1.00
transparency[6,25]	1.00
transparency[7,25]	1.00
transparency[8,25]	1.01
transparency[9,25]	1.00
transparency[10,25]	1.00
transparency[11,25]	1.00
transparency[12,25]	1.00
transparency[13,25]	1.00
transparency[14,25]	1.00
transparency[15,25]	1.00
transparency[16,25]	1.00
transparency[17,25]	1.00
transparency[18,25]	1.00
transparency[19,25]	1.00
transparency[20,25]	1.00
transparency[21,25]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[22,25]	1.00
transparency[23,25]	1.01
transparency[24,25]	1.00
transparency[25,25]	1.00
transparency[26,25]	1.00
transparency[27,25]	1.02
transparency[28,25]	1.00
transparency[29,25]	1.00
transparency[30,25]	1.00
transparency[31,25]	1.03
transparency[32,25]	1.01
transparency[33,25]	1.00
transparency[34,25]	1.00
transparency[35,25]	1.00
transparency[36,25]	1.00
transparency[37,25]	1.00
transparency[38,25]	1.00
transparency[39,25]	1.00
transparency[40,25]	1.00
transparency[41,25]	1.00
transparency[42,25]	1.01
transparency[43,25]	1.00
transparency[44,25]	1.01
transparency[45,25]	1.00
transparency[46,25]	1.01
transparency[47,25]	1.01
transparency[48,25]	1.01
transparency[49,25]	1.00
transparency[50,25]	1.01
transparency[51,25]	1.00
transparency[52,25]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[53,25]	1.00
transparency[54,25]	1.01
transparency[55,25]	1.01
transparency[56,25]	1.00
transparency[57,25]	1.00
transparency[58,25]	1.01
transparency[59,25]	1.00
transparency[60,25]	1.00
transparency[61,25]	1.00
transparency[62,25]	1.00
transparency[63,25]	1.00
transparency[64,25]	1.00
transparency[65,25]	1.01
transparency[66,25]	1.00
transparency[67,25]	1.00
transparency[68,25]	1.01
transparency[69,25]	1.00
transparency[70,25]	1.01
transparency[71,25]	1.00
transparency[72,25]	1.00
transparency[73,25]	1.00
transparency[74,25]	1.00
transparency[75,25]	1.01
transparency[76,25]	1.00
transparency[77,25]	1.00
transparency[78,25]	1.00
transparency[79,25]	1.01
transparency[80,25]	1.01
transparency[81,25]	1.01
transparency[82,25]	1.02
transparency[83,25]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[84,25]	1.00
transparency[85,25]	1.00
transparency[86,25]	1.00
transparency[87,25]	1.00
transparency[88,25]	1.00
transparency[89,25]	1.00
transparency[90,25]	1.00
transparency[91,25]	1.00
transparency[92,25]	1.00
transparency[93,25]	1.00
transparency[94,25]	1.00
transparency[95,25]	1.00
transparency[96,25]	1.01
transparency[97,25]	1.01
transparency[98,25]	1.00
transparency[99,25]	1.00
transparency[100,25]	1.00
transparency[101,25]	1.01
transparency[102,25]	1.00
transparency[103,25]	1.01
transparency[104,25]	1.00
transparency[105,25]	1.01
transparency[106,25]	1.01
transparency[107,25]	1.00
transparency[108,25]	1.00
transparency[109,25]	1.01
transparency[110,25]	1.00
transparency[111,25]	1.00
transparency[112,25]	1.00
transparency[113,25]	1.00
transparency[114,25]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[115,25]	1.00
transparency[116,25]	1.01
transparency[117,25]	1.00
transparency[118,25]	1.00
transparency[119,25]	1.00
transparency[120,25]	1.00
transparency[121,25]	1.00
transparency[122,25]	1.00
transparency[123,25]	1.02
transparency[124,25]	1.00
transparency[125,25]	1.02
transparency[1,26]	1.00
transparency[2,26]	1.00
transparency[3,26]	1.00
transparency[4,26]	1.01
transparency[5,26]	1.00
transparency[6,26]	1.00
transparency[7,26]	1.00
transparency[8,26]	1.01
transparency[9,26]	1.01
transparency[10,26]	1.01
transparency[11,26]	1.01
transparency[12,26]	1.00
transparency[13,26]	1.00
transparency[14,26]	1.00
transparency[15,26]	1.00
transparency[16,26]	1.00
transparency[17,26]	1.00
transparency[18,26]	1.00
transparency[19,26]	1.00
transparency[20,26]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[21,26]	1.00
transparency[22,26]	1.01
transparency[23,26]	1.00
transparency[24,26]	1.00
transparency[25,26]	1.00
transparency[26,26]	1.00
transparency[27,26]	1.02
transparency[28,26]	1.01
transparency[29,26]	1.01
transparency[30,26]	1.00
transparency[31,26]	1.00
transparency[32,26]	1.00
transparency[33,26]	1.00
transparency[34,26]	1.00
transparency[35,26]	1.00
transparency[36,26]	1.00
transparency[37,26]	1.00
transparency[38,26]	1.00
transparency[39,26]	1.00
transparency[40,26]	1.00
transparency[41,26]	1.01
transparency[42,26]	1.00
transparency[43,26]	1.01
transparency[44,26]	1.02
transparency[45,26]	1.00
transparency[46,26]	1.00
transparency[47,26]	1.01
transparency[48,26]	1.01
transparency[49,26]	1.01
transparency[50,26]	1.01
transparency[51,26]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[52,26]	1.00
transparency[53,26]	1.00
transparency[54,26]	1.02
transparency[55,26]	1.01
transparency[56,26]	1.00
transparency[57,26]	1.00
transparency[58,26]	1.00
transparency[59,26]	1.00
transparency[60,26]	1.01
transparency[61,26]	1.00
transparency[62,26]	1.00
transparency[63,26]	1.01
transparency[64,26]	1.00
transparency[65,26]	1.00
transparency[66,26]	1.00
transparency[67,26]	1.00
transparency[68,26]	1.00
transparency[69,26]	1.00
transparency[70,26]	1.00
transparency[71,26]	1.00
transparency[72,26]	1.00
transparency[73,26]	1.00
transparency[74,26]	1.01
transparency[75,26]	1.00
transparency[76,26]	1.00
transparency[77,26]	1.00
transparency[78,26]	1.00
transparency[79,26]	1.00
transparency[80,26]	1.01
transparency[81,26]	1.02
transparency[82,26]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[83,26]	1.01
transparency[84,26]	1.00
transparency[85,26]	1.01
transparency[86,26]	1.00
transparency[87,26]	1.00
transparency[88,26]	1.01
transparency[89,26]	1.00
transparency[90,26]	1.00
transparency[91,26]	1.00
transparency[92,26]	1.00
transparency[93,26]	1.02
transparency[94,26]	1.00
transparency[95,26]	1.00
transparency[96,26]	1.01
transparency[97,26]	1.01
transparency[98,26]	1.00
transparency[99,26]	1.00
transparency[100,26]	1.00
transparency[101,26]	1.00
transparency[102,26]	1.00
transparency[103,26]	1.01
transparency[104,26]	1.01
transparency[105,26]	1.00
transparency[106,26]	1.01
transparency[107,26]	1.00
transparency[108,26]	1.00
transparency[109,26]	1.00
transparency[110,26]	1.00
transparency[111,26]	1.00
transparency[112,26]	1.00
transparency[113,26]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[114,26]	1.00
transparency[115,26]	1.01
transparency[116,26]	1.00
transparency[117,26]	1.01
transparency[118,26]	1.00
transparency[119,26]	1.00
transparency[120,26]	1.00
transparency[121,26]	1.01
transparency[122,26]	1.00
transparency[123,26]	1.01
transparency[124,26]	1.01
transparency[125,26]	1.02
transparency[1,27]	1.00
transparency[2,27]	1.00
transparency[3,27]	1.00
transparency[4,27]	1.00
transparency[5,27]	1.00
transparency[6,27]	1.00
transparency[7,27]	1.00
transparency[8,27]	1.02
transparency[9,27]	1.01
transparency[10,27]	1.00
transparency[11,27]	1.01
transparency[12,27]	1.00
transparency[13,27]	1.00
transparency[14,27]	1.00
transparency[15,27]	1.00
transparency[16,27]	1.00
transparency[17,27]	1.00
transparency[18,27]	1.00
transparency[19,27]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[20,27]	1.00
transparency[21,27]	1.01
transparency[22,27]	1.00
transparency[23,27]	1.00
transparency[24,27]	1.00
transparency[25,27]	1.00
transparency[26,27]	1.00
transparency[27,27]	1.01
transparency[28,27]	1.01
transparency[29,27]	1.02
transparency[30,27]	1.00
transparency[31,27]	1.00
transparency[32,27]	1.00
transparency[33,27]	1.00
transparency[34,27]	1.00
transparency[35,27]	1.00
transparency[36,27]	1.00
transparency[37,27]	1.00
transparency[38,27]	1.00
transparency[39,27]	1.02
transparency[40,27]	1.00
transparency[41,27]	1.01
transparency[42,27]	1.01
transparency[43,27]	1.01
transparency[44,27]	1.02
transparency[45,27]	1.00
transparency[46,27]	1.00
transparency[47,27]	1.01
transparency[48,27]	1.00
transparency[49,27]	1.00
transparency[50,27]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[51,27]	1.00
transparency[52,27]	1.00
transparency[53,27]	1.00
transparency[54,27]	1.02
transparency[55,27]	1.01
transparency[56,27]	1.00
transparency[57,27]	1.00
transparency[58,27]	1.01
transparency[59,27]	1.00
transparency[60,27]	1.00
transparency[61,27]	1.00
transparency[62,27]	1.00
transparency[63,27]	1.00
transparency[64,27]	1.00
transparency[65,27]	1.00
transparency[66,27]	1.00
transparency[67,27]	1.00
transparency[68,27]	1.00
transparency[69,27]	1.00
transparency[70,27]	1.01
transparency[71,27]	1.01
transparency[72,27]	1.00
transparency[73,27]	1.00
transparency[74,27]	1.01
transparency[75,27]	1.00
transparency[76,27]	1.00
transparency[77,27]	1.00
transparency[78,27]	1.00
transparency[79,27]	1.01
transparency[80,27]	1.01
transparency[81,27]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[82,27]	1.01
transparency[83,27]	1.00
transparency[84,27]	1.00
transparency[85,27]	1.00
transparency[86,27]	1.00
transparency[87,27]	1.00
transparency[88,27]	1.00
transparency[89,27]	1.00
transparency[90,27]	1.01
transparency[91,27]	1.00
transparency[92,27]	1.01
transparency[93,27]	1.00
transparency[94,27]	1.00
transparency[95,27]	1.00
transparency[96,27]	1.00
transparency[97,27]	1.00
transparency[98,27]	1.00
transparency[99,27]	1.00
transparency[100,27]	1.00
transparency[101,27]	1.00
transparency[102,27]	1.00
transparency[103,27]	1.00
transparency[104,27]	1.01
transparency[105,27]	1.01
transparency[106,27]	1.01
transparency[107,27]	1.00
transparency[108,27]	1.00
transparency[109,27]	1.00
transparency[110,27]	1.00
transparency[111,27]	1.00
transparency[112,27]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[113,27]	1.00
transparency[114,27]	1.00
transparency[115,27]	1.02
transparency[116,27]	1.00
transparency[117,27]	1.00
transparency[118,27]	1.00
transparency[119,27]	1.00
transparency[120,27]	1.00
transparency[121,27]	1.01
transparency[122,27]	1.01
transparency[123,27]	1.00
transparency[124,27]	1.01
transparency[125,27]	1.01
transparency[1,28]	1.00
transparency[2,28]	1.00
transparency[3,28]	1.01
transparency[4,28]	1.01
transparency[5,28]	1.00
transparency[6,28]	1.00
transparency[7,28]	1.00
transparency[8,28]	1.01
transparency[9,28]	1.00
transparency[10,28]	1.00
transparency[11,28]	1.02
transparency[12,28]	1.00
transparency[13,28]	1.00
transparency[14,28]	1.00
transparency[15,28]	1.01
transparency[16,28]	1.00
transparency[17,28]	1.00
transparency[18,28]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[19,28]	1.00
transparency[20,28]	1.00
transparency[21,28]	1.00
transparency[22,28]	1.00
transparency[23,28]	1.00
transparency[24,28]	1.00
transparency[25,28]	1.00
transparency[26,28]	1.00
transparency[27,28]	1.02
transparency[28,28]	1.00
transparency[29,28]	1.01
transparency[30,28]	1.00
transparency[31,28]	1.00
transparency[32,28]	1.00
transparency[33,28]	1.01
transparency[34,28]	1.00
transparency[35,28]	1.02
transparency[36,28]	1.01
transparency[37,28]	1.00
transparency[38,28]	1.00
transparency[39,28]	1.02
transparency[40,28]	1.01
transparency[41,28]	1.00
transparency[42,28]	1.00
transparency[43,28]	1.00
transparency[44,28]	1.02
transparency[45,28]	1.00
transparency[46,28]	1.00
transparency[47,28]	1.00
transparency[48,28]	1.00
transparency[49,28]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[50,28]	1.01
transparency[51,28]	1.00
transparency[52,28]	1.00
transparency[53,28]	1.00
transparency[54,28]	1.03
transparency[55,28]	1.01
transparency[56,28]	1.00
transparency[57,28]	1.00
transparency[58,28]	1.01
transparency[59,28]	1.01
transparency[60,28]	1.00
transparency[61,28]	1.00
transparency[62,28]	1.00
transparency[63,28]	1.00
transparency[64,28]	1.00
transparency[65,28]	1.01
transparency[66,28]	1.00
transparency[67,28]	1.00
transparency[68,28]	1.00
transparency[69,28]	1.00
transparency[70,28]	1.00
transparency[71,28]	1.01
transparency[72,28]	1.00
transparency[73,28]	1.00
transparency[74,28]	1.00
transparency[75,28]	1.00
transparency[76,28]	1.01
transparency[77,28]	1.00
transparency[78,28]	1.00
transparency[79,28]	1.01
transparency[80,28]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[81,28]	1.01
transparency[82,28]	1.01
transparency[83,28]	1.00
transparency[84,28]	1.00
transparency[85,28]	1.00
transparency[86,28]	1.01
transparency[87,28]	1.00
transparency[88,28]	1.00
transparency[89,28]	1.00
transparency[90,28]	1.00
transparency[91,28]	1.00
transparency[92,28]	1.01
transparency[93,28]	1.02
transparency[94,28]	1.00
transparency[95,28]	1.00
transparency[96,28]	1.00
transparency[97,28]	1.00
transparency[98,28]	1.00
transparency[99,28]	1.00
transparency[100,28]	1.00
transparency[101,28]	1.00
transparency[102,28]	1.01
transparency[103,28]	1.00
transparency[104,28]	1.01
transparency[105,28]	1.01
transparency[106,28]	1.01
transparency[107,28]	1.00
transparency[108,28]	1.00
transparency[109,28]	1.00
transparency[110,28]	1.00
transparency[111,28]	1.02

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[112,28]	1.01
transparency[113,28]	1.00
transparency[114,28]	1.00
transparency[115,28]	1.01
transparency[116,28]	1.01
transparency[117,28]	1.00
transparency[118,28]	1.00
transparency[119,28]	1.00
transparency[120,28]	1.00
transparency[121,28]	1.01
transparency[122,28]	1.00
transparency[123,28]	1.02
transparency[124,28]	1.00
transparency[125,28]	1.01
transparency[1,29]	1.00
transparency[2,29]	1.00
transparency[3,29]	1.00
transparency[4,29]	1.01
transparency[5,29]	1.00
transparency[6,29]	1.00
transparency[7,29]	1.00
transparency[8,29]	1.01
transparency[9,29]	1.00
transparency[10,29]	1.00
transparency[11,29]	1.04
transparency[12,29]	1.00
transparency[13,29]	1.00
transparency[14,29]	1.00
transparency[15,29]	1.00
transparency[16,29]	1.00
transparency[17,29]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[18,29]	1.00
transparency[19,29]	1.00
transparency[20,29]	1.00
transparency[21,29]	1.00
transparency[22,29]	1.00
transparency[23,29]	1.01
transparency[24,29]	1.02
transparency[25,29]	1.00
transparency[26,29]	1.00
transparency[27,29]	1.02
transparency[28,29]	1.00
transparency[29,29]	1.00
transparency[30,29]	1.00
transparency[31,29]	1.00
transparency[32,29]	1.00
transparency[33,29]	1.00
transparency[34,29]	1.00
transparency[35,29]	1.01
transparency[36,29]	1.01
transparency[37,29]	1.00
transparency[38,29]	1.00
transparency[39,29]	1.02
transparency[40,29]	1.00
transparency[41,29]	1.01
transparency[42,29]	1.00
transparency[43,29]	1.00
transparency[44,29]	1.03
transparency[45,29]	1.00
transparency[46,29]	1.00
transparency[47,29]	1.01
transparency[48,29]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[49,29]	1.01
transparency[50,29]	1.00
transparency[51,29]	1.00
transparency[52,29]	1.00
transparency[53,29]	1.01
transparency[54,29]	1.01
transparency[55,29]	1.02
transparency[56,29]	1.00
transparency[57,29]	1.00
transparency[58,29]	1.00
transparency[59,29]	1.01
transparency[60,29]	1.00
transparency[61,29]	1.00
transparency[62,29]	1.00
transparency[63,29]	1.00
transparency[64,29]	1.00
transparency[65,29]	1.01
transparency[66,29]	1.00
transparency[67,29]	1.00
transparency[68,29]	1.00
transparency[69,29]	1.00
transparency[70,29]	1.01
transparency[71,29]	1.01
transparency[72,29]	1.00
transparency[73,29]	1.00
transparency[74,29]	1.02
transparency[75,29]	1.00
transparency[76,29]	1.00
transparency[77,29]	1.00
transparency[78,29]	1.00
transparency[79,29]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[80,29]	1.00
transparency[81,29]	1.02
transparency[82,29]	1.00
transparency[83,29]	1.00
transparency[84,29]	1.00
transparency[85,29]	1.01
transparency[86,29]	1.00
transparency[87,29]	1.00
transparency[88,29]	1.01
transparency[89,29]	1.00
transparency[90,29]	1.00
transparency[91,29]	1.00
transparency[92,29]	1.00
transparency[93,29]	1.01
transparency[94,29]	1.00
transparency[95,29]	1.00
transparency[96,29]	1.00
transparency[97,29]	1.00
transparency[98,29]	1.00
transparency[99,29]	1.00
transparency[100,29]	1.00
transparency[101,29]	1.00
transparency[102,29]	1.00
transparency[103,29]	1.00
transparency[104,29]	1.00
transparency[105,29]	1.01
transparency[106,29]	1.01
transparency[107,29]	1.00
transparency[108,29]	1.00
transparency[109,29]	1.00
transparency[110,29]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[111,29]	1.01
transparency[112,29]	1.00
transparency[113,29]	1.00
transparency[114,29]	1.01
transparency[115,29]	1.01
transparency[116,29]	1.00
transparency[117,29]	1.00
transparency[118,29]	1.00
transparency[119,29]	1.00
transparency[120,29]	1.00
transparency[121,29]	1.01
transparency[122,29]	1.01
transparency[123,29]	1.01
transparency[124,29]	1.00
transparency[125,29]	1.00
transparency[1,30]	1.00
transparency[2,30]	1.00
transparency[3,30]	1.01
transparency[4,30]	1.00
transparency[5,30]	1.00
transparency[6,30]	1.00
transparency[7,30]	1.00
transparency[8,30]	1.03
transparency[9,30]	1.00
transparency[10,30]	1.00
transparency[11,30]	1.02
transparency[12,30]	1.00
transparency[13,30]	1.00
transparency[14,30]	1.00
transparency[15,30]	1.00
transparency[16,30]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[17,30]	1.00
transparency[18,30]	1.01
transparency[19,30]	1.00
transparency[20,30]	1.00
transparency[21,30]	1.01
transparency[22,30]	1.01
transparency[23,30]	1.02
transparency[24,30]	1.01
transparency[25,30]	1.00
transparency[26,30]	1.00
transparency[27,30]	1.01
transparency[28,30]	1.01
transparency[29,30]	1.01
transparency[30,30]	1.00
transparency[31,30]	1.00
transparency[32,30]	1.00
transparency[33,30]	1.00
transparency[34,30]	1.00
transparency[35,30]	1.01
transparency[36,30]	1.00
transparency[37,30]	1.03
transparency[38,30]	1.00
transparency[39,30]	1.02
transparency[40,30]	1.00
transparency[41,30]	1.00
transparency[42,30]	1.00
transparency[43,30]	1.01
transparency[44,30]	1.02
transparency[45,30]	1.00
transparency[46,30]	1.00
transparency[47,30]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[48,30]	1.00
transparency[49,30]	1.00
transparency[50,30]	1.00
transparency[51,30]	1.00
transparency[52,30]	1.00
transparency[53,30]	1.01
transparency[54,30]	1.00
transparency[55,30]	1.03
transparency[56,30]	1.00
transparency[57,30]	1.00
transparency[58,30]	1.00
transparency[59,30]	1.01
transparency[60,30]	1.00
transparency[61,30]	1.00
transparency[62,30]	1.00
transparency[63,30]	1.01
transparency[64,30]	1.00
transparency[65,30]	1.00
transparency[66,30]	1.00
transparency[67,30]	1.02
transparency[68,30]	1.02
transparency[69,30]	1.01
transparency[70,30]	1.00
transparency[71,30]	1.02
transparency[72,30]	1.01
transparency[73,30]	1.00
transparency[74,30]	1.03
transparency[75,30]	1.00
transparency[76,30]	1.00
transparency[77,30]	1.00
transparency[78,30]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[79,30]	1.00
transparency[80,30]	1.00
transparency[81,30]	1.04
transparency[82,30]	1.01
transparency[83,30]	1.01
transparency[84,30]	1.00
transparency[85,30]	1.01
transparency[86,30]	1.01
transparency[87,30]	1.00
transparency[88,30]	1.00
transparency[89,30]	1.00
transparency[90,30]	1.00
transparency[91,30]	1.00
transparency[92,30]	1.01
transparency[93,30]	1.02
transparency[94,30]	1.00
transparency[95,30]	1.00
transparency[96,30]	1.00
transparency[97,30]	1.00
transparency[98,30]	1.00
transparency[99,30]	1.00
transparency[100,30]	1.00
transparency[101,30]	1.00
transparency[102,30]	1.01
transparency[103,30]	1.00
transparency[104,30]	1.01
transparency[105,30]	1.00
transparency[106,30]	1.01
transparency[107,30]	1.00
transparency[108,30]	1.00
transparency[109,30]	1.01

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[110,30]	1.00
transparency[111,30]	1.01
transparency[112,30]	1.00
transparency[113,30]	1.01
transparency[114,30]	1.00
transparency[115,30]	1.00
transparency[116,30]	1.01
transparency[117,30]	1.00
transparency[118,30]	1.00
transparency[119,30]	1.00
transparency[120,30]	1.00
transparency[121,30]	1.00
transparency[122,30]	1.01
transparency[123,30]	1.01
transparency[124,30]	1.00
transparency[125,30]	1.01
transparency[1,31]	1.00
transparency[2,31]	1.00
transparency[3,31]	1.01
transparency[4,31]	1.00
transparency[5,31]	1.01
transparency[6,31]	1.01
transparency[7,31]	1.00
transparency[8,31]	1.01
transparency[9,31]	1.00
transparency[10,31]	1.00
transparency[11,31]	1.00
transparency[12,31]	1.00
transparency[13,31]	1.00
transparency[14,31]	1.00
transparency[15,31]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[16,31]	1.00
transparency[17,31]	1.00
transparency[18,31]	1.00
transparency[19,31]	1.01
transparency[20,31]	1.00
transparency[21,31]	1.00
transparency[22,31]	1.01
transparency[23,31]	1.01
transparency[24,31]	1.02
transparency[25,31]	1.00
transparency[26,31]	1.00
transparency[27,31]	1.00
transparency[28,31]	1.00
transparency[29,31]	1.00
transparency[30,31]	1.00
transparency[31,31]	1.01
transparency[32,31]	1.01
transparency[33,31]	1.00
transparency[34,31]	1.00
transparency[35,31]	1.00
transparency[36,31]	1.00
transparency[37,31]	1.02
transparency[38,31]	1.00
transparency[39,31]	1.03
transparency[40,31]	1.00
transparency[41,31]	1.00
transparency[42,31]	1.00
transparency[43,31]	1.00
transparency[44,31]	1.04
transparency[45,31]	1.00
transparency[46,31]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[47,31]	1.01
transparency[48,31]	1.00
transparency[49,31]	1.01
transparency[50,31]	1.00
transparency[51,31]	1.00
transparency[52,31]	1.00
transparency[53,31]	1.00
transparency[54,31]	1.00
transparency[55,31]	1.01
transparency[56,31]	1.00
transparency[57,31]	1.00
transparency[58,31]	1.00
transparency[59,31]	1.00
transparency[60,31]	1.00
transparency[61,31]	1.00
transparency[62,31]	1.01
transparency[63,31]	1.00
transparency[64,31]	1.01
transparency[65,31]	1.01
transparency[66,31]	1.00
transparency[67,31]	1.01
transparency[68,31]	1.02
transparency[69,31]	1.00
transparency[70,31]	1.00
transparency[71,31]	1.00
transparency[72,31]	1.00
transparency[73,31]	1.00
transparency[74,31]	1.02
transparency[75,31]	1.00
transparency[76,31]	1.00
transparency[77,31]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[78,31]	1.00
transparency[79,31]	1.01
transparency[80,31]	1.00
transparency[81,31]	1.00
transparency[82,31]	1.01
transparency[83,31]	1.01
transparency[84,31]	1.00
transparency[85,31]	1.00
transparency[86,31]	1.03
transparency[87,31]	1.02
transparency[88,31]	1.01
transparency[89,31]	1.00
transparency[90,31]	1.00
transparency[91,31]	1.00
transparency[92,31]	1.00
transparency[93,31]	1.01
transparency[94,31]	1.00
transparency[95,31]	1.00
transparency[96,31]	1.00
transparency[97,31]	1.00
transparency[98,31]	1.00
transparency[99,31]	1.02
transparency[100,31]	1.02
transparency[101,31]	1.00
transparency[102,31]	1.01
transparency[103,31]	1.00
transparency[104,31]	1.01
transparency[105,31]	1.00
transparency[106,31]	1.01
transparency[107,31]	1.00
transparency[108,31]	1.00

Table 1: Diagnostic Statistics From IRT Model

Variable Name	Gelman-Rubin Diagnostic
transparency[109,31]	1.00
transparency[110,31]	1.00
transparency[111,31]	1.00
transparency[112,31]	1.00
transparency[113,31]	1.01
transparency[114,31]	1.01
transparency[115,31]	1.00
transparency[116,31]	1.00
transparency[117,31]	1.01
transparency[118,31]	1.01
transparency[119,31]	1.00
transparency[120,31]	1.00
transparency[121,31]	1.01
transparency[122,31]	1.01
transparency[123,31]	1.01
transparency[124,31]	1.00
transparency[125,31]	1.01

D Prior Robustness

The following presents an assessment of the robustness of our measurement model to varying assumptions regarding the prior densities of all model parameters. We first vary prior densities on the hyperprior governing the country-specific time-smoothing parameter τ_c. (In the baseline model, $\tau_c \sim Gamma(20, .25)$.) We estimate models where $\tau_c \sim Gamma(10, .5)$, $Gamma(5, 1)$, and $Gamma(2, 2.5)$. We additionally vary the prior density on the draws of the transparency term in the first year of the dataset (1980), $transparency_{c,1}$. (In the baseline model, the prior on this term is $transparency_{c,1} \sim N(0, 100)$.) We estimate alternative models in which this prior is given by $transparency_{c,1} \sim N(0, 200)$, $N(0, 500)$ and $N(0, 1000)$. We also estimate models with all permutations of these prior densities.

Table 2 presents the correlations of the mean transparency estimates produced by all such models. (Values are rounded off at two decimal places.) Table 3 presents the correlations of the standard deviations of all posterior densities. Finally, since the τ_c term governs the degree to which changes in transparency scores for a given country are smoothed over time, we present correlations of the mean first-differences in estimated transparency scores in Table 4. These results indicate that the model is robust to variations in these prior assumptions, the lowest correlation in any of these three tables is 0.98.

Table 2: Correlation Matrix of Mean Posterior Values of Transparency

	$transparency_{c,1} \sim N(0,100)$	$transparency_{c,1} \sim N(0,200)$	$transparency_{c,1} \sim N(0,500)$	$transparency_{c,1} \sim N(0,1000)$
$\tau_c \sim Gamma(20,.25)$	1.00	1.00	1.00	1.00
$\tau_c \sim Gamma(10,.5)$	1.00	1.00	1.00	1.00
$\tau_c \sim Gamma(5,1)$	1.00	1.00	1.00	1.00
$\tau_c \sim Gamma(2,2.5)$	1.00	1.00	1.00	1.00

Table 3: Correlation Matrix of the Standard Deviation of Transparency Posterior Densities

	$transparency_{c,1} \sim N(0,100)$	$transparency_{c,1} \sim N(0,200)$	$transparency_{c,1} \sim N(0,500)$	$transparency_{c,1} \sim N(0,1000)$
$\tau_c \sim Gamma(20,.25)$	1.00	1.00	1.00	1.00
$\tau_c \sim Gamma(10,.5)$	1.00	1.00	1.00	1.00
$\tau_c \sim Gamma(5,1)$	0.99	0.99	0.99	0.99
$\tau_c \sim Gamma(2,2.5)$	0.98	0.98	0.98	0.98

Table 4: Correlation Matrix of the Mean First Difference in Posterior Values of Transparency

	$transparency_{c,1} \sim N(0,100)$	$transparency_{c,1} \sim N(0,200)$	$transparency_{c,1} \sim N(0,500)$	$transparency_{c,1} \sim N(0,1000)$
$\tau_c \sim Gamma(20,.25)$	1.00	1.00	1.00	1.00
$\tau_c \sim Gamma(10,.5)$	1.00	1.00	1.00	1.00
$\tau_c \sim Gamma(5,1)$	0.99	0.99	0.99	0.99
$\tau_c \sim Gamma(2,2.5)$	0.98	0.98	0.98	0.98

In addition to testing the robustness of the model to the hyperpriors on the τ_c and priors on the $transparency_{c,1}$ terms, we examine the robustness to variation in the priors on the difficulty and discrimination parameters δ_j and β_j. (In the baseline model, these priors are given by $\begin{pmatrix} \delta_j \\ \beta_j \end{pmatrix} \sim N(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 100 & 0 \\ 0 & 100 \end{pmatrix})$.) We additionally estimate models in which this prior is given by $\begin{pmatrix} \delta_j \\ \beta_j \end{pmatrix} \sim N(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 200 & 0 \\ 0 & 200 \end{pmatrix})$, $N(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 500 & 0 \\ 0 & 500 \end{pmatrix})$, and $N(\begin{pmatrix} 0 \\ 0 \end{pmatrix}, \begin{pmatrix} 1000 & 0 \\ 0 & 1000 \end{pmatrix})$. Table 5 presents the correlations of

the mean of the transparency posterior densities, of their standard deviations, and of their mean first-differences, across these models. Again, these results indicate the robustness of the measurement model to prior assumptions – the lowest correlation value is 0.92.

Table 5: Correlations of Summary Statistics for Transparency Posterior Densities, Varying Priors on Difficulty and Discrimination Parameters

	$N(0, 100)$	$N(0, 200)$	$N(0, 500)$	$N(0, 1000)$
Means	1.00	1.00	1.00	1.00
Standard Dev.	1.00	1.00	0.92	0.99
First Differences	1.00	1.00	1.00	0.99

E Model Fit Comparisons

The following presents histograms of Total Expected Percentage Correctly Predicted (TePCP) values from three models. The TePCP score for each model is defined as follows:

$$TePCP = \frac{1}{JCT} \sum_{j=1}^{J} \sum_{c=1}^{C} \sum_{t=1}^{T} [y_{j,c,t} p_{j,c,t} + (1 - y_{j,c,t})(1 - p_{j,c,t})]$$

where j indexes items (WDI variables), c indexes countries, and t indexes years. J, C and T denote the maximal value of their respective indexes. $p_{j,c,t} \in [0, 1]$ is the predicted probability that country c reports variable j in year t, and $y_{j,c,t} \in \{0, 1\}$ is the realized outcome ($y_{j,c,t} = 1$ if the variable is reported).

The three models are as follows: (1) A constants only model: $y_{j,c,t} = logit(\delta_j)$. This model thus treats the probability that a given country c reports a given variable j in a given year t as simply reflecting the average frequency with which variable j is reported across all countries in years. As such, it serves as a baseline comparison against which all other models might be compared. (2) The baseline model: $y_{j,c,t} = logit(\delta_j + \beta_j transparency_{c,t})$. This is the model employed in the paper. (3) A two-dimensional IRT model: $y_{j,c,t} = logit(\delta_j + \beta_j transparency1_{c,t} + \gamma_j transparency2_{c,t})$.

We estimate all three models, and sample repeatedly from the posterior densities of δ_j, β_j, γ_j, $transparency_{c,t}$, $transparency1_{c,t}$ and $transparency2_{c,t}$ parameters to construct a distribution of TePCP scores for each model.[1] Results are presented as histograms, below.

[1] We use 500 draws from the posterior densities of the constants only and baseline models, and 80 draws from the two dimensional IRT model. Memory constraints required aggressive thinning in the MCMC algorithm for the two dimensional model,

Figure 1: TePCP Scores from a Model Estimated Using Constants Only

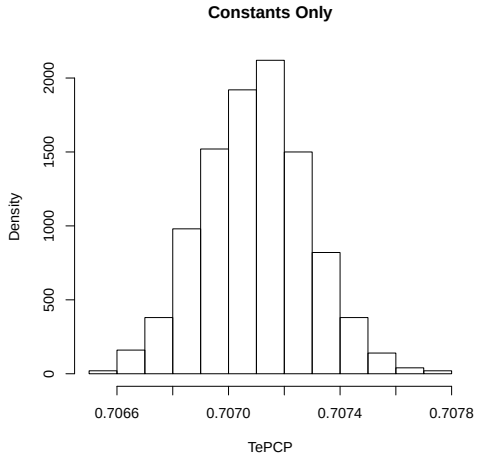
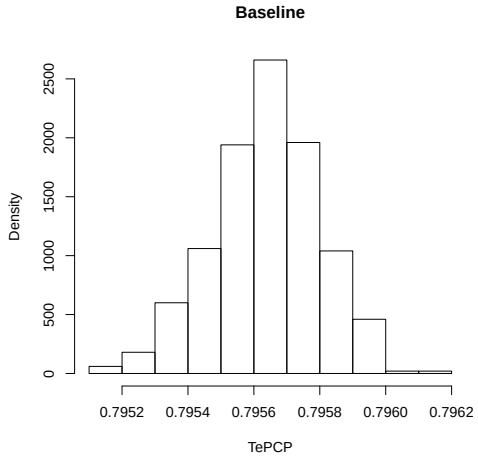
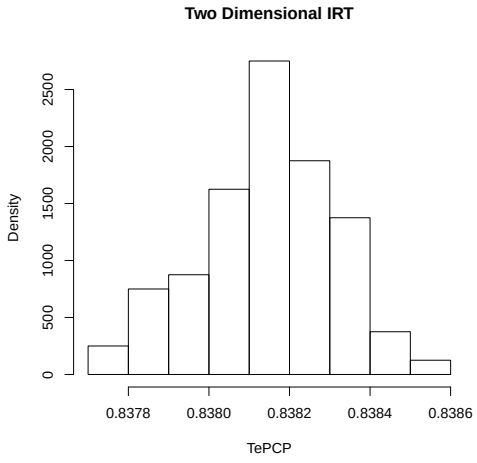


Figure 2: TePCP Scores from the Baseline Model



leaving fewer observations from the posterior density to use for this purpose.

Figure 3: TePCP Scores from a Two Dimensional IRT Model



F IRT Value-Added

In this section of the appendix, we compare the performance of our transparency index to that of a simpler measure of transparency. This simpler measure is given by the fraction of the 240 WDI variables used to construct our index that is reported by a given country in a given year (the fraction reported measure). As noted in the main draft, the implicit assumption governing the fraction reported measure is that the reporting of any given variable is as informative as the reporting of any other variable. The IRT model used to construct our measure relaxes this assumption, and we demonstrate in the main draft that these two measures produce different estimates of transparency. Here, we examine the performance of these differing estimates in an applied setting – namely, in the ability to explain variation in governance indicators drawn from the International Country Risk Guide (ICRG).

To compare the performance of these two measures, we examine the results of two models. The first of these two models is identical to that we present as a validation exercise in the main draft. This model nests both our baseline measurement model and a regression of ICRG governance indicators (for bureaucratic quality, corruption and the rule of law) against our transparency scores.[2] Nesting the measurement and regression models in this manner ensures that uncertainty over the transparency estimates is fully factored in to regression results (Fox and Glas, 2003). We additionally include terms for the level of democracy (as measured by the polity2 score), for the interaction of democracy and transparency, for GDP *per capita* (measured in 2005 constant purchasing power parity dollars from the Penn World Table 7.1), for measures of newspaper circulation per 1,000 residents, the interaction of this term and the polity2 variable, and a lagged dependent variable. To adjust for the slow movement of the outcome measures, we collapse all

[2]The bureaucratic quality measure ranges between 0 and 4, while the corruption and rule of law measures range from 0 to 6.

observations into their five year averages. The regression model is thus:

$$governance_{c,t} \sim N(\theta_{c,t}^{HRV}, \sigma^{HRV})$$

$$\theta_{c,t}^{HRV} = \gamma_0 + \gamma_1 governance_{c,t-1} + \gamma_2 transparency_{c,t} + \gamma_3 polity2_{c,t} + \gamma_4 transparency_{c,t} \times polity2_{c,t}$$
$$+ \gamma_5 newscirc_{c,t} + \gamma_6 newscirc_{c,t} \times polity2_{c,t} + \gamma_7 GDP_{c,t}$$

$$\begin{pmatrix} \gamma_0 \\ \vdots \\ \gamma_5 \end{pmatrix} \sim N(\begin{pmatrix} 0 \\ \vdots \\ 0 \end{pmatrix}, \begin{pmatrix} 1,000 & 0 & \dots & 0 \\ 0 & \ddots & & \vdots \\ \vdots & & \ddots & \vdots \\ 0 & \dots & 0 & 1,000 \end{pmatrix})$$

We then estimate an analogous model, using the fraction reported measure in place of our transparency scores, such that:

$$governance_{c,t} \sim N(\theta_{c,t}^{frac}, \sigma^{frac})$$

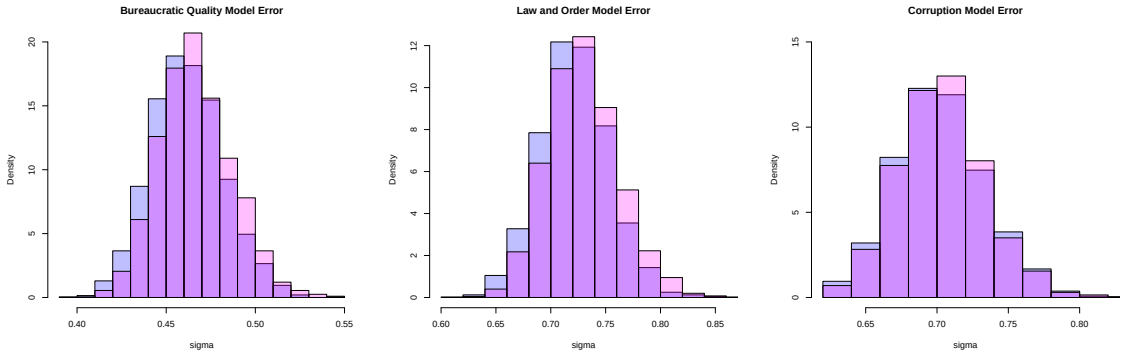
$$\theta_{c,t}^{frac} = \zeta_0 + \zeta_1 governance_{c,t-1} + \zeta_2 frac_reported_{c,t} + \zeta_3 polity2_{c,t} + \zeta_4 frac_reported_{c,t} \times polity2_{c,t}$$
$$+ \zeta_5 newscirc_{c,t} + \zeta_6 newscirc_{c,t} \times polity2_{c,t} + \zeta_7 GDP_{c,t}$$

$$\begin{pmatrix} \zeta_0 \\ \vdots \\ \zeta_5 \end{pmatrix} \sim N(\begin{pmatrix} 0 \\ \vdots \\ 0 \end{pmatrix}, \begin{pmatrix} 1,000 & 0 & \dots & 0 \\ 0 & \ddots & & \vdots \\ \vdots & & \ddots & \vdots \\ 0 & \dots & 0 & 1,000 \end{pmatrix})$$

We first compare the fit of the two models. That is, we examine the posterior densities of both σ^{HRV} and σ^{frac} to see if either measure substantially improves upon the other in explaining variation in the ICRG indicators. We estimate three sets of regressions of the form described above, using the ICRG measures of Bureaucratic Quality, Law and Order and Corruption as outcome variables. Figure 4 presents histograms of 2,000 draws from the posterior densities of σ^{HRV} and σ^{frac} from each set of regressions. As is evident from this figure, the two posterior densities are nearly identical. Neither measure substantially improves the performance of the regression models described above relative to the other.

The lack of any substantial difference in model fit across the two specifications may be a result of the

Figure 4: Comparisons of Model Fit: Fraction Reported vs. HRV



Histograms of the posterior density of σ^{HRV} and σ^{frac} from regressions of the ICRG's measures of (respectively) Bureaucratic Quality, Law and Order, and Corruption on measures of transparency, democracy, and their interaction. Results using the HRV measure of transparency are presented in red. Results using the fraction reported measure of transparency are reported in blue.

predictive power of the other explanatory variables in the regression. In particular, the lagged dependent variable is likely to explain much of the variation in slow moving indicators, such as the ICRG data. It remains possible, however, that the HRV index and the fraction reported index differ in the extent to which each is estimated to covary with governance.

To asses this possibility, we compare the contemporaneous marginal effect of a one standard deviation shift in the HRV index ($[\gamma_3 + \gamma_4 polity2_{c,t}]sd(transparency)$ above, where $sd(transparency)$ is the standard deviation of the HRV index) to the contemporaneous marginal effect of a one standard deviation shift in the fraction reported variable ($[\zeta_3 + \zeta_4 polity2_{c,t}]sd(frac_reported)$, where $sd(frac_reported)$ is the standard deviation of the fraction reported variable). Figures 5 - 7 report this comparison, for all values of the polity2 index $[-10, 10]$. We additionally plot estimates of the difference in these two effects.

These estimates reveal a consistent pattern. Relative to the HRV index, the fraction reported index is less strongly correlated with governance. In particular, the HRV index correlates more strongly with Bureaucratic Quality and Law & Order in autocracies than does the fraction reported measure – though, this difference disappears in more democratic states. The correlation between corruption and the HRV index is consistently stronger than that between corruption and the fraction reported measure across all values of polity2. These differences are non-trivial in magnitude. For instance, in the most autocratic states, the

contemporaneous marginal effect of a one standard deviation increase in the HRV index on bureaucratic quality is estimated to be approximately 75% larger than that of a one standard deviation shift in the fraction reported measure. This is likely attributable to the fact that, relative to the HRV index, the fraction reported measure compresses variation in estimated transparency levels in the extreme cases – i.e., the most and least transparent states. Since autocracies are typically score poorly on estimated transparency levels, the HRV index is better able to distinguish between autocratic states than the fraction reported measure. The latter is more likely to group autocracies together with relatively similar transparency scores.

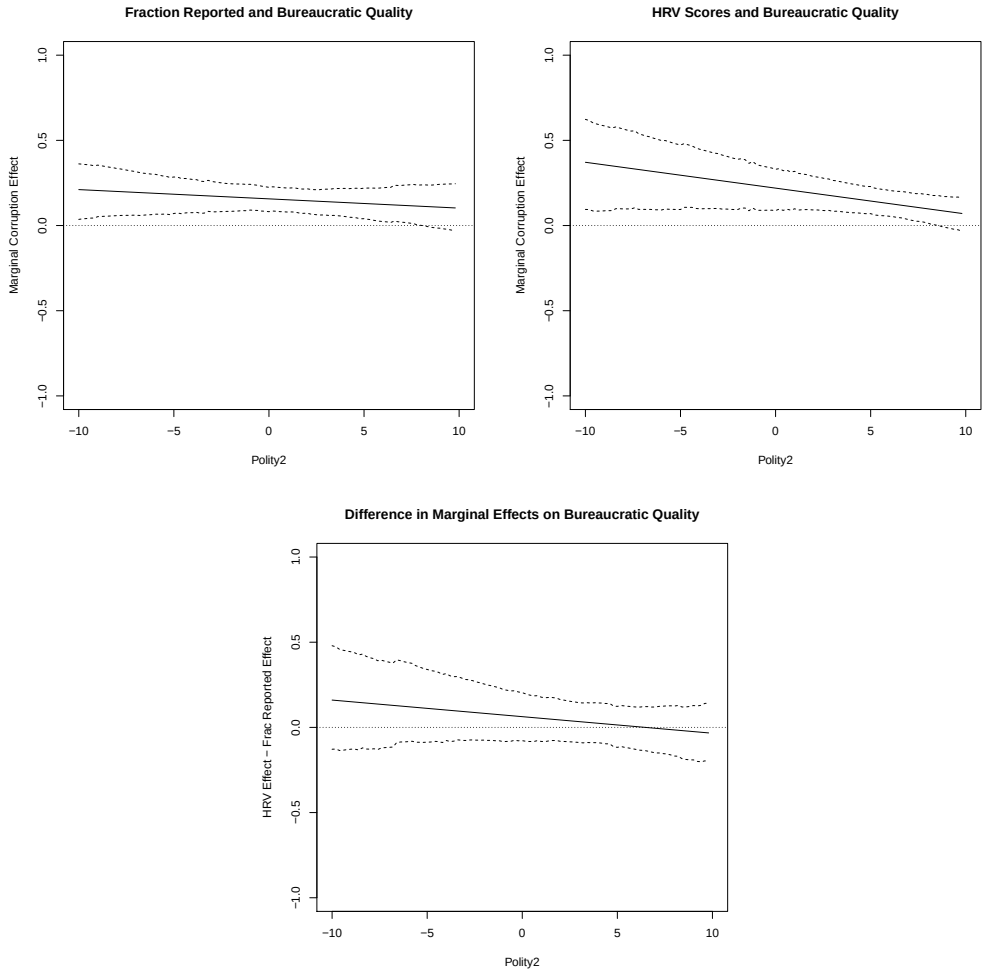
We report complete sets of coefficient estimates in Table 6.

References

Adserà, Alícia, Carles Boix and Mark Payne. 2003. "Are You Being Served? Political Accounatability and Quality of Government." *The Journal of Law, Economics & Organization* 19(2):445–490.

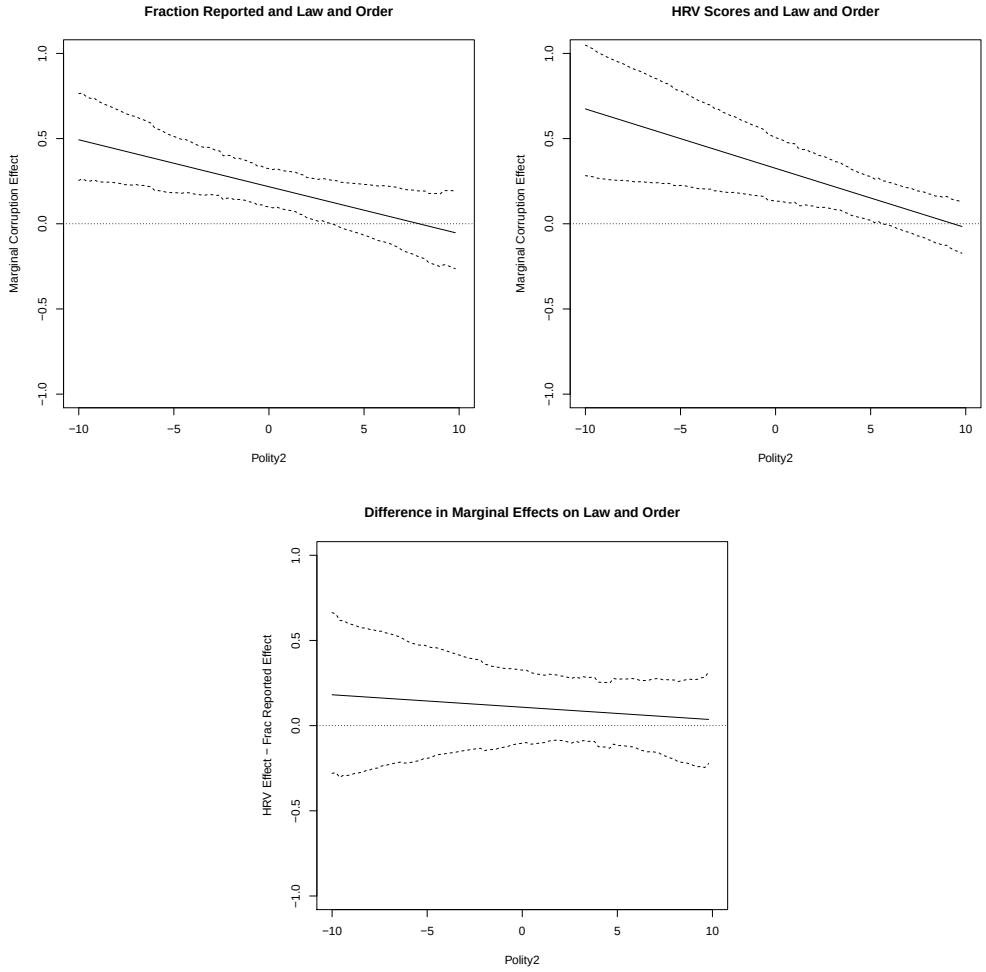
Fox, Jean-Paul and Cees A.W. Glas. 2003. "Bayesian Modeling of Measurement Error in Predictor Variables Using Item Response Theory." *Psychometrika* 68(2):169–191.

Figure 5: Contemporaneous Marginal Effects on Bureaucratic Quality: Fraction Reported vs. HRV



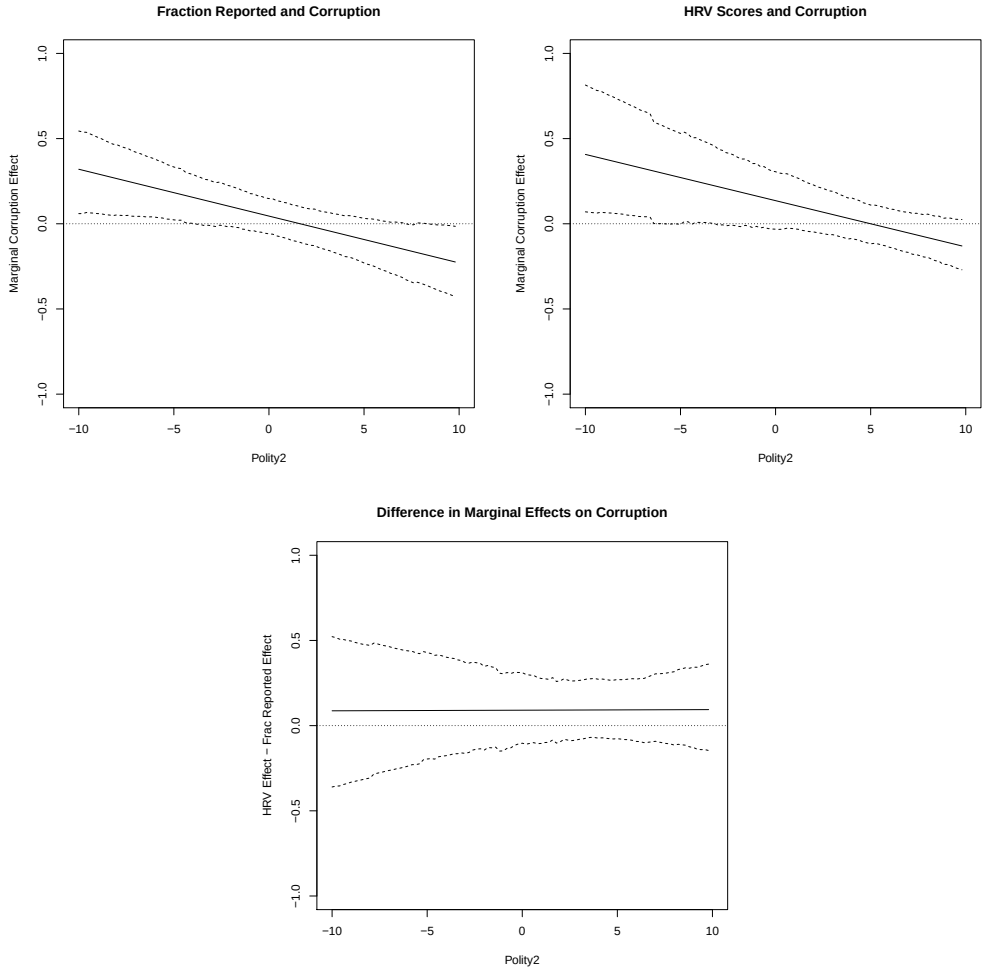
The top two graphs depict the contemporaneous marginal effect of a one standard deviation shift in transparency scores. The graph to the left depicts a one standard deviation shift in the fraction reported measure. The one to the right depicts an analogous shift in the HRV index. Polity2 scores are plotted on the x-axis, while the marginal effect on Bureaucratic Quality is plotted on the y-axis. The bottom graph depicts the difference in these estimates. In all graphs, the solid line depicts the mean estimated value. The dashed lines depict 95 percent highest posterior densities.

Figure 6: Contemporaneous Marginal Effects on Law & Order: Fraction Reported vs. HRV



The top two graphs depict the contemporaneous marginal effect of a one standard deviation shift in transparency scores. The graph to the left depicts a one standard deviation shift in the fraction reported measure. The one to the right depicts an analogous shift in the HRV index. Polity2 scores are plotted on the x-axis, while the marginal effect on Law & Order is plotted on the y-axis. The bottom graph depicts the difference in these estimates. In all graphs, the solid line depicts the mean estimated value. The dashed lines depict 95 percent highest posterior densities.

Figure 7: Contemporaneous Marginal Effects on Corruption: Fraction Reported vs. HRV



The top two graphs depict the contemporaneous marginal effect of a one standard deviation shift in transparency scores. The graph to the left depicts a one standard deviation shift in the fraction reported measure. The one to the right depicts an analogous shift in the HRV index. Polity2 scores are plotted on the x-axis, while the marginal effect on Corruption is plotted on the y-axis. The bottom graph depicts the difference in these estimates. In all graphs, the solid line depicts the mean estimated value. The dashed lines depict 95 percent highest posterior densities.

Table 6: Regressions of ICRG Governance Indicators on HRV and Fraction Reported Indexes of Transparency

	Bur. Quality		**Law & Order**		**Corruption**	
	HRV Index	**Frac. Reported**	**HRV Index**	**Frac. Reported**	**HRV Index**	**Frac. Reported**
Lag Dep. Variable	0.62	0.60	0.55	0.54	0.59	0.59
	[0.55, 0.67]	[0.53, 0.67]	[0.47, 0.64]	[0.45, 0.63]	[0.51, 0.68]	[0.50, 0.68]
Polity2	8×10^{-3}	0.04	-0.03	0.12	0.01	0.16
	[-4×10^{-3}, 0.02]	[-0.05, 0.10]	[-0.05, -0.01]	[1×10^{-3}, 0.24]	[-7×10^{-3}, 0.03]	[0.05, 0.27]
Transparency	0.10	1.12	0.15	1.56	0.06	0.32
	[0.04, 0.15]	[0.58, 1.61]	[0.06, 0.23]	[0.71, 2.32]	[-0.01, 0.14]	[-0.43, 1.06]
Polity2 $\times$	-7×10^{-3}	-0.04	-0.02	-0.20	-0.01	-0.20
Transparency	[-0.01, 4×10^{-4}]	[-0.13, 0.06]	[-0.03, -5×10^{-3}]	[-0.35, -0.06]	[-0.02, -2×10^{-3}]	[-0.33, -0.05]
Newspaper Circ.	1×10^{-3}	1×10^{-3}	3×10^{-4}	7×10^{-4}	1×10^{-3}	2×10^{-3}
	[-5×10^{-4}, 3×10^{-3}]	[-4×10^{-4}, 3×10^{-3}]	[-2×10^{-3}, 3×10^{-3}]	[-1×10^{-3}, 3×10^{-3}]	[-1×10^{-3}, 4×10^{-3}]	[-7×10^{-4}, 4×10^{-3}]
Polity2 $\times$	-3×10^{-5}	-4×10^{-5}	2×10^{-4}	4×10^{-5}	1×10^{-4}	-4×10^{-5}
Newspaper Circ.	[-2×10^{-4}, 1×10^{-4}]	[-2×10^{-4}, 9×10^{-5}]	[-6×10^{-5}, 4×10^{-4}]	[-1×10^{-4}, 3×10^{-4}]	[-1×10^{-4}, 3×10^{-4}]	[-2×10^{-4}, 2×10^{-4}]
GDP *per capita*	2×10^{-5}	2×10^{-5}	3×10^{-5}	3×10^{-5}	8×10^{-6}	8×10^{-6}
	[7×10^{-6}, 3×10^{-5}]	[9×10^{-6}, 3×10^{-5}]	[7×10^{-6}, 4×10^{-5}]	[1×10^{-5}, 4×10^{-5}]	[-5×10^{-6}, 2×10^{-5}]	[-5×10^{-6}, 2×10^{-5}]
σ	0.47	0.46	0.73	0.72	0.70	0.70
	[0.43, 0.51]	[0.42, 0.50]	[0.66, 0.79]	[0.65, 0.78]	[0.64, 0.76]	[0.64, 0.76]
N	261	261	261	261	261	261

Results of a regression of ICRG governance indicators against differing measures of transparency. The dependent variable is indicated in the top row. The transparency measure – either the HRV Index or the fraction reported measure – is reported in the second row. This indicates which measure is used for the rows labeled 'Transparency' and 'Polity2 $\times$ Transparency.' 95 percent highest posterior density intervals are reported in brackets.