

# Appendix (Not Intended for Publication)

## A Country Code, Country Name, and Sample Time Period

Table A1: Country Code, Country Name, and Sample Time Period

Country Code	Country Name	Sample	Country Code	Country Name	Sample
AGO	Angola	1980 – 2017	CYP	Cyprus	1975 – 2017
ALB	Albania	1980 – 2017	CZE	Czech Republic	1990 – 2017
ARE	United Arab Emirates	1975 – 2017	DEU	Germany	1970 – 2017
ARG	Argentina	1960 – 2017	DNK	Denmark	1960 – 2017
ARM	Armenia	1990 – 2017	DOM	Dominican Republic	1960 – 2017
AUS	Australia	1960 – 2017	DZA	Algeria	1960 – 2017
AUT	Austria	1960 – 2017	ECU	Ecuador	1960 – 2017
AZE	Azerbaijan	1990 – 2017	EGY	Egypt, Arab Rep.	1960 – 2017
BDI	Burundi	1960 – 2017	ESP	Spain	1960 – 2017
BEL	Belgium	1960 – 2017	EST	Estonia	1993 – 2017
BEN	Benin	1960 – 2017	ETH	Ethiopia	1981 – 2017
BFA	Burkina Faso	1960 – 2017	FIN	Finland	1960 – 2017
BGD	Bangladesh	1960 – 2017	FJI	Fiji	1960 – 2017
BGR	Bulgaria	1980 – 2017	FRA	France	1960 – 2017
BHS	Bahamas, The	1960 – 2017	GAB	Gabon	1960 – 2017
BIH	Bosnia and Herzegovina	1994 – 2017	GBR	United Kingdom	1960 – 2017
BLR	Belarus	1990 – 2017	GEO	Georgia	1965 – 2017
BLZ	Belize	1960 – 2017	GHA	Ghana	1960 – 2017
BOL	Bolivia	1960 – 2017	GIN	Guinea	1986 – 2017
BRA	Brazil	1960 – 2017	GMB	Gambia, The	1966 – 2017
BRN	Brunei Darussalam	1974 – 2017	GNB	Guinea-Bissau	1970 – 2017
BTN	Bhutan	1980 – 2017	GNQ	Equatorial Guinea	1980 – 2017
BWA	Botswana	1960 – 2017	GRC	Greece	1960 – 2017
CAF	Central African Republic	1960 – 2017	GRL	Greenland	1970 – 2017
CAN	Canada	1970 – 2017	GTM	Guatemala	1960 – 2017
CHE	Switzerland	1970 – 2017	GUY	Guyana	1960 – 2017
CHL	Chile	1960 – 2017	HND	Honduras	1960 – 2017
CHN	China	1960 – 2017	HRV	Croatia	1995 – 2017
CIV	Cote d'Ivoire	1960 – 2017	HTI	Haiti	1960 – 2017
CMR	Cameroon	1960 – 2017	HUN	Hungary	1991 – 2017
COD	Congo, Dem. Rep.	1960 – 2017	IDN	Indonesia	1960 – 2017
COG	Congo, Rep.	1960 – 2017	IND	India	1960 – 2017
COL	Colombia	1960 – 2017	IRL	Ireland	1970 – 2017
COM	Comoros	1980 – 2017	IRN	Iran, Islamic Rep.	1960 – 2017
CPV	Cabo Verde	1980 – 2017	IRQ	Iraq	1968 – 2017
CRI	Costa Rica	1960 – 2017	ISL	Iceland	1970 – 2017
CUB	Cuba	1970 – 2017	ISR	Israel	1960 – 2017

Table A2: Country Code, Country Name, and Sample Time Period (Continued)

Country Code	Country Name	Sample	Country Code	Country Name	Sample
ITA	Italy	1960 – 2017	NPL	Nepal	1960 – 2017
JAM	Jamaica	1966 – 2017	NZL	New Zealand	1970 – 2017
JOR	Jordan	1975 – 2017	OMN	Oman	1965 – 2017
JPN	Japan	1960 – 2017	PAK	Pakistan	1960 – 2017
KAZ	Kazakhstan	1990 – 2017	PAN	Panama	1960 – 2017
KEN	Kenya	1960 – 2017	PER	Peru	1960 – 2017
KGZ	Kyrgyz Republic	1986 – 2017	PHL	Philippines	1960 – 2017
KHM	Cambodia	1993 – 2017	PNG	Papua New Guinea	1960 – 2017
KOR	Korea, Rep.	1960 – 2017	POL	Poland	1990 – 2017
KWT	Kuwait	1995 – 2017	PRI	Puerto Rico	1960 – 2017
LAO	Lao PDR	1984 – 2017	PRT	Portugal	1960 – 2017
LBN	Lebanon	1988 – 2017	PRY	Paraguay	1960 – 2017
LBY	Libya	1999 – 2017	PSE	West Bank and Gaza	1994 – 2017
LKA	Sri Lanka	1961 – 2017	ROU	Romania	1990 – 2017
LSO	Lesotho	1960 – 2017	RUS	Russian Federation	1989 – 2017
LTU	Lithuania	1995 – 2017	RWA	Rwanda	1960 – 2017
LUX	Luxembourg	1960 – 2017	SAU	Saudi Arabia	1968 – 2017
LVA	Latvia	1995 – 2017	SDN	Sudan	1960 – 2017
MAR	Morocco	1966 – 2017	SEN	Senegal	1960 – 2017
MDA	Moldova	1995 – 2017	SLB	Solomon Islands	1990 – 2017
MDG	Madagascar	1960 – 2017	SLE	Sierra Leone	1960 – 2017
MEX	Mexico	1960 – 2017	SLV	El Salvador	1965 – 2017
MKD	North Macedonia	1990 – 2017	SRB	Serbia	1995 – 2017
MLI	Mali	1967 – 2017	SUR	Suriname	1960 – 2017
MMR	Myanmar	1960 – 2017	SVK	Slovak Republic	1992 – 2017
MNE	Montenegro	1997 – 2017	SVN	Slovenia	1990 – 2017
MNG	Mongolia	1981 – 2017	SWE	Sweden	1960 – 2017
MOZ	Mozambique	1980 – 2017	SWZ	Eswatini	1970 – 2017
MRT	Mauritania	1961 – 2017	TCD	Chad	1960 – 2017
MWI	Malawi	1960 – 2017	TGO	Togo	1960 – 2017
MYS	Malaysia	1960 – 2017	THA	Thailand	1960 – 2017
NAM	Namibia	1980 – 2017	TJK	Tajikistan	1985 – 2017
NER	Niger	1960 – 2017	TKM	Turkmenistan	1987 – 2017
NGA	Nigeria	1960 – 2017	TTO	Trinidad and Tobago	1960 – 2017
NIC	Nicaragua	1960 – 2017	TUN	Tunisia	1965 – 2017
NLD	Netherlands	1960 – 2017	TUR	Turkey	1960 – 2017
NOR	Norway	1960 – 2017	TZA	Tanzania	1988 – 2017

Table A3: Country Code, Country Name, and Sample Time Period (Continued)

Country Code	Country Name	Sample
UGA	Uganda	1982 – 2017
UKR	Ukraine	1987 – 2017
URY	Uruguay	1960 – 2017
USA	United States	1960 – 2017
UZB	Uzbekistan	1987 – 2017
VCT	St. Vincent and the Grenadines	1960 – 2017
VEN	Venezuela, RB	1960 – 2017
VNM	Vietnam	1984 – 2017
VUT	Vanuatu	1979 – 2017
WSM	Samoa	1982 – 2017
YEM	Yemen, Rep.	1990 – 2017
ZAF	South Africa	1960 – 2017
ZMB	Zambia	1960 – 2017
ZWE	Zimbabwe	1960 – 2017

## B Panel Regression with Time-Fixed Effects

We run a panel regression with country ( $\gamma_j$ ) and time ( $\theta_t$ ) fixed effects,

$$\Delta y_{j,t} = \gamma_j + \theta_t + \beta T_{j,t} + \rho T_{j,t-1} + \epsilon_{j,t}. \quad (\text{B1})$$

$\Delta y_{j,t}$  is real GDP per capita growth for country  $j = \{1, 2, \dots, 162\}$  at year  $t$  and  $T_{j,t}$  is country  $j$ 's average annual temperature in year  $t$ . All variables are from our main data. Column (i) in Table B1 reports the slope coefficient on  $T_{j,t}$ . In Column (ii) we augment equation B1 by interacting  $T_{j,t}$  (and  $T_{j,t-1}$ ) with a dummy variable indicating if a country is poor, which we define as countries with real GDP per capita that lies below the global median in its first year in the sample. To compare these estimates to the literature, the magnitudes and point estimates are different from Dell et al. (2012) due to different sample lengths and exact specification, but the insignificance on direct temperature and significant negative slope coefficient on the poor-country temperature interaction follows their basic qualitative results. For completeness, in Column (iii) we run the same specification as in Column (ii) but remove the lags.

Table B1: Panel Regression with Country and Time Fixed Effects

	Equation (B1)			Equation (B2)		
	(i)	(ii)	(iii)	(iv)	(v)	(vi)
$T_{j,t}$	-0.056 (0.115)	0.185 (0.185)	0.066 (0.173)			
$poor * T_{j,t}$		<b>-0.729</b> <b>(0.287)</b>	-0.239 (0.243)			
$\widetilde{T}_{j,t}$				-0.051 (0.154)	0.191 (0.183)	0.072 (0.171)
$poor * \widetilde{T}_{j,t}$					<b>-0.732</b> <b>(0.286)</b>	-0.244 (0.242)
lags	yes	yes	no	yes	yes	no

Notes: Bold face indicates significance at the 5 percent level. Standard errors are in parentheses. Comparison coefficients are between (i) with (iv), (ii) with (v), and (iii) with (vi).

Next, we estimate the system

$$\Delta y_{j,t} - \frac{1}{N} \sum_{j=1}^N \Delta y_{j,t} = \gamma_j + \beta \underbrace{\left( T_{j,t} - \frac{1}{N} \sum_{j=1}^N T_{j,t} \right)}_{\widetilde{T}_{j,t}} + \rho \left( T_{j,t-1} - \frac{1}{N} \sum_{j=1}^N T_{j,t-1} \right) + \epsilon_{j,t} \quad (\text{B2})$$

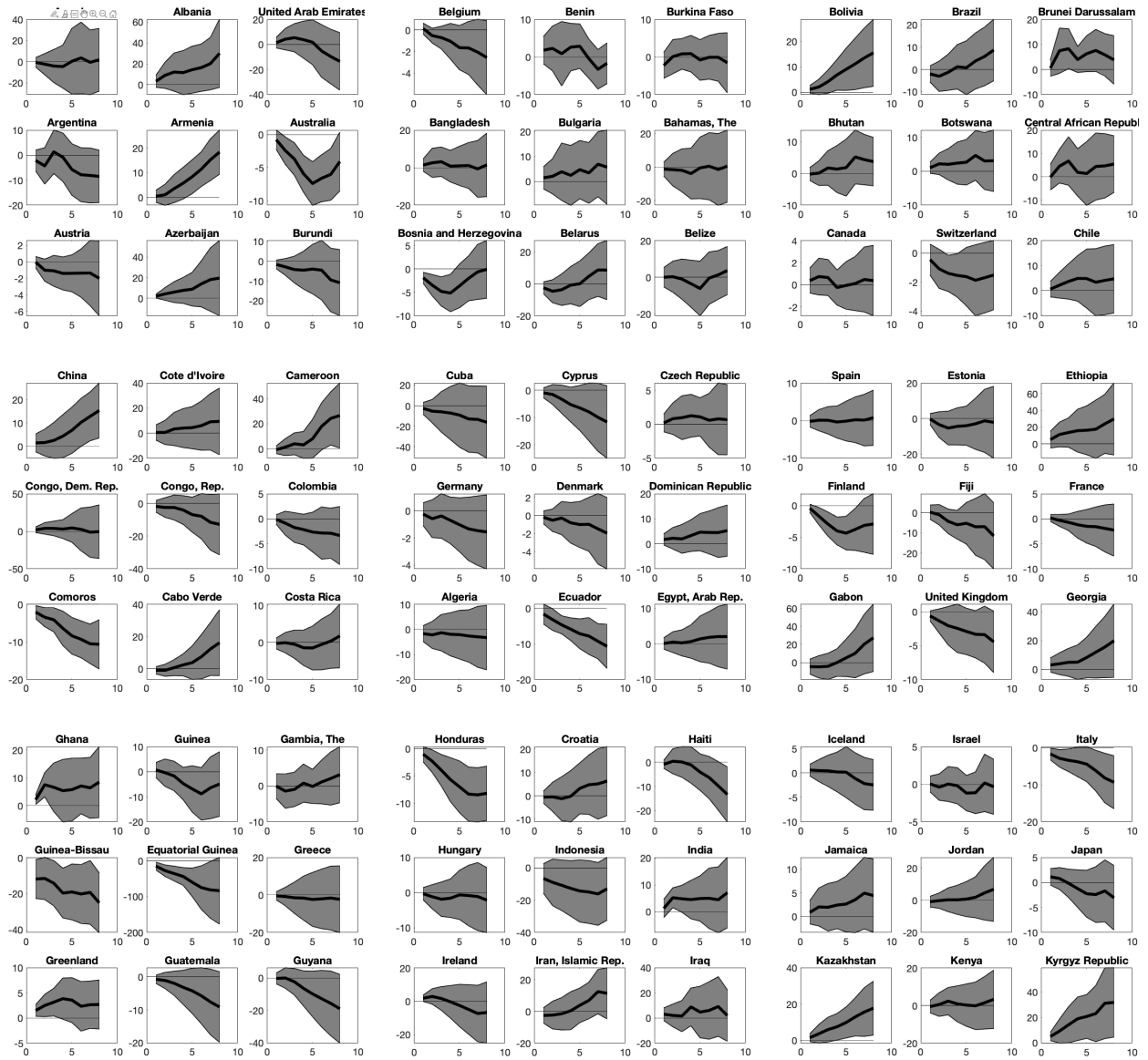


where we define the local temperature minus the global average temperature as  $\widetilde{T}_{j,t}$ . The slope coefficient on  $\widetilde{T}_{j,t}$  is in column (iv) of Table B1. The comparison of this slope coefficient with that on  $T_{j,t}$  (in column (i)) demonstrates the interpretation of the temperature coefficient in a panel with time fixed effects.

We then reestimate equation (B2) but include a term (and lag)  $\widetilde{poor * T}_{j,t} = \left(T_{j,t} - \frac{1}{N} \sum_{j=1}^P T_{j,t}\right)$  if poor and  $\widetilde{poor * T}_{j,t} = -\frac{1}{N} \sum_{j=1}^P T_{j,t}$  if rich. For poor countries, this term is the temperature of poor country  $j = \{1, 2, \dots, P\}$  minus the per period sum temperature of all poor countries divided by the number of total countries. For rich countries, this term is 0 minus the per period sum temperature of all poor countries divided by the number of total countries. The slope coefficient on  $\widetilde{poor * T}_{j,t}$  is in column (v). Noting the correspondence with estimates in column (ii) shows the comparability to estimating equation (B1) with a poor country temperature interaction. The interpretation of the slope coefficients  $\widetilde{T}_{j,t}$  and  $\widetilde{poor * T}_{j,t}$  is the change in country  $j$ 's growth rate relative to the world average growth rate at time  $t$  from a one degree increase in poor country  $j$ 's temperature relative to the sum temperature of all poor countries divided by the number of total countries at time  $t$ .

# C Country Temperature Local Projection and Pseudo Panel Local Projection Results

Figure C1: Country Temperature Local-Projection Impulse Responses



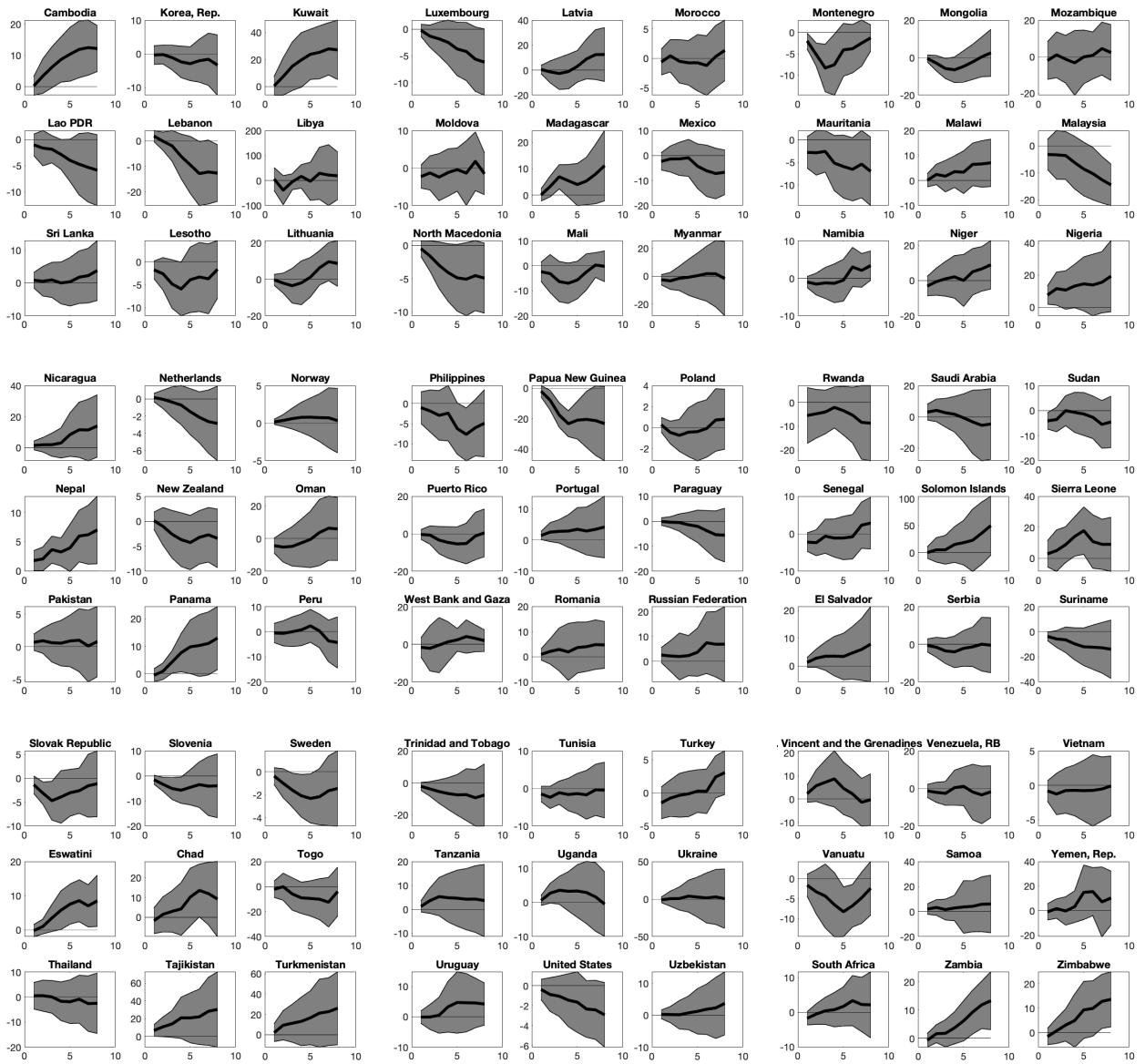
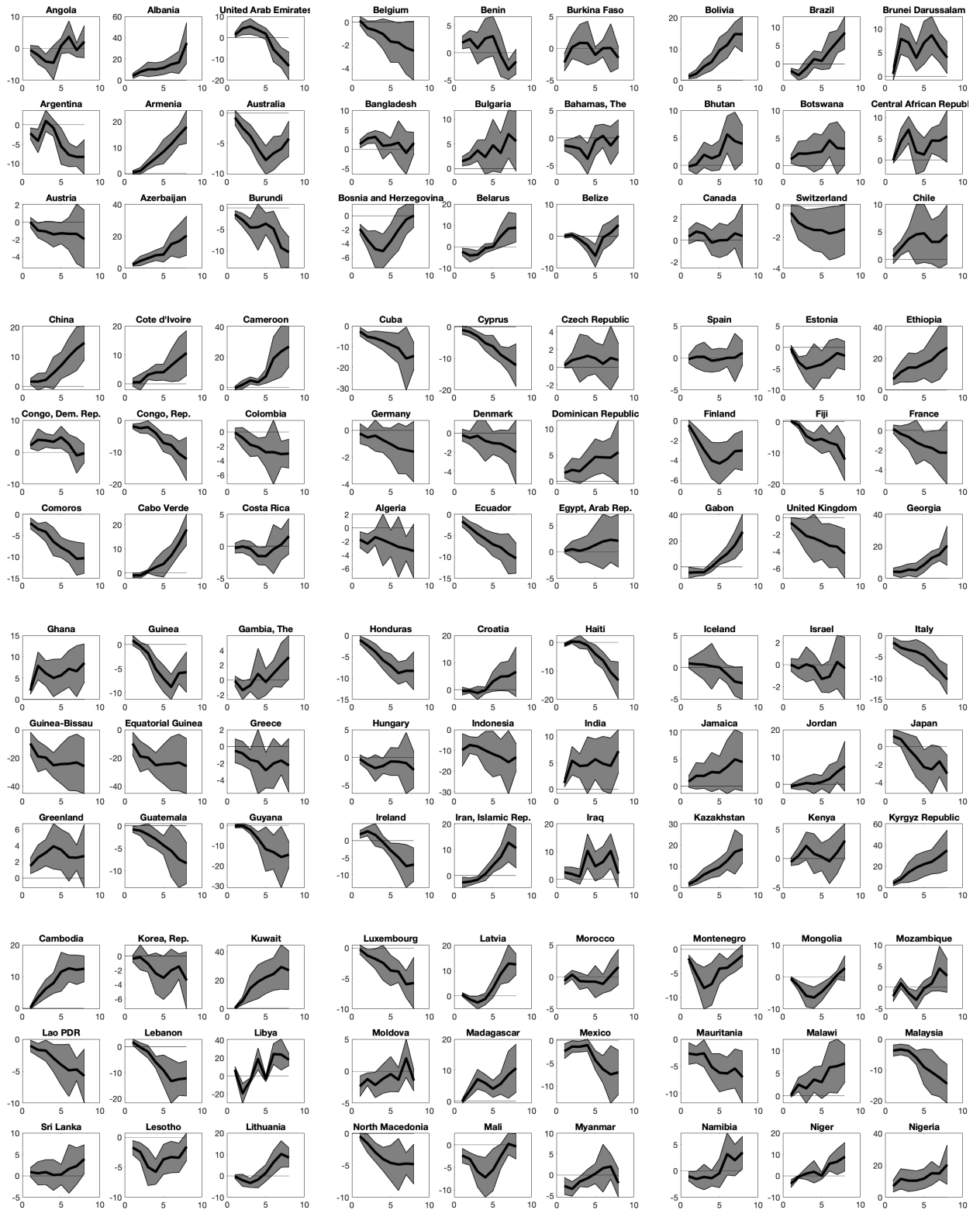


Figure C2: Country Temperature Pseudo-Panel Impulse Responses



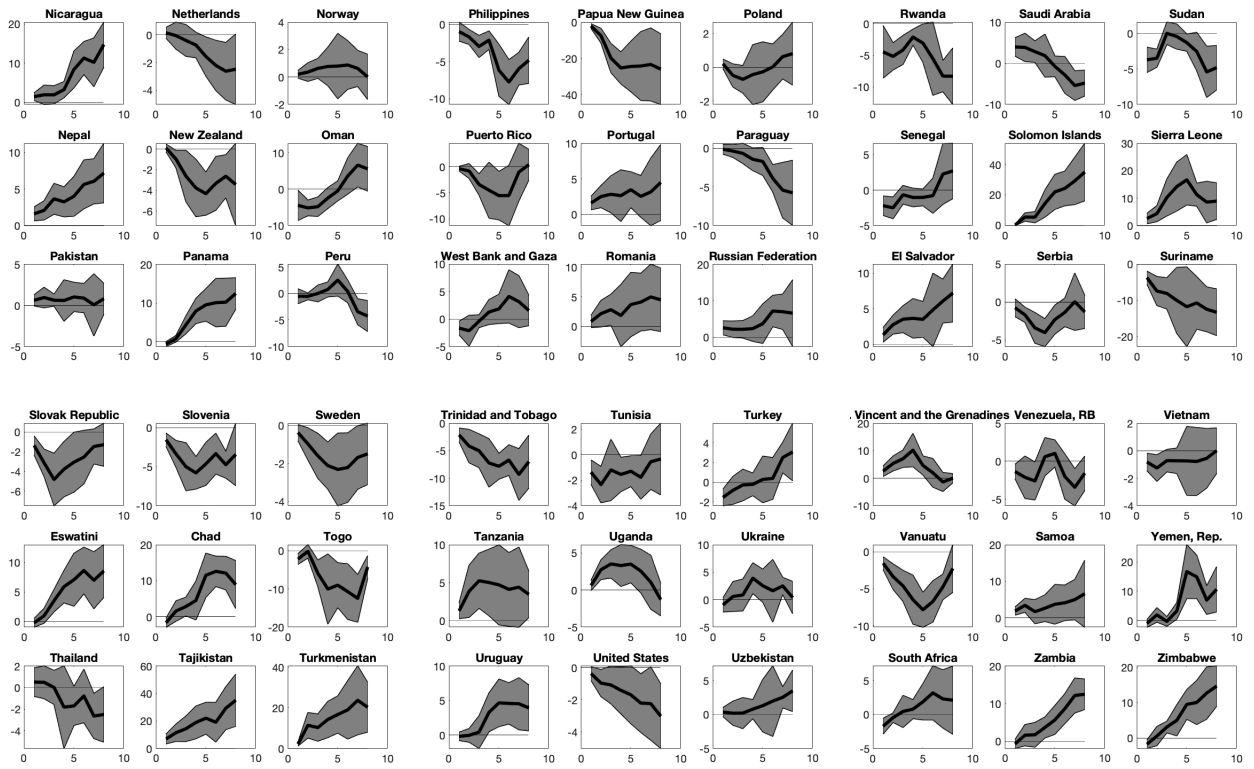
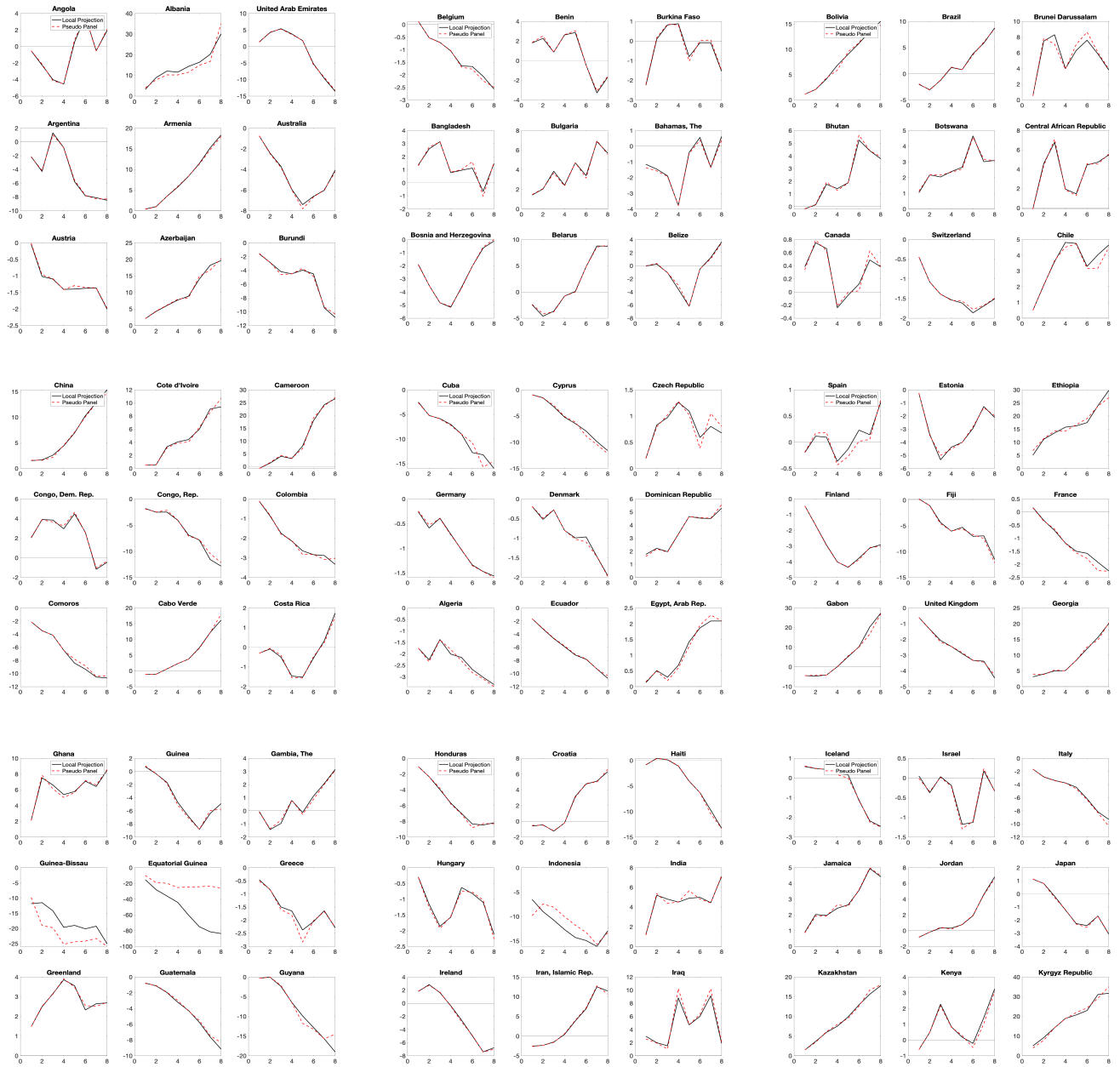
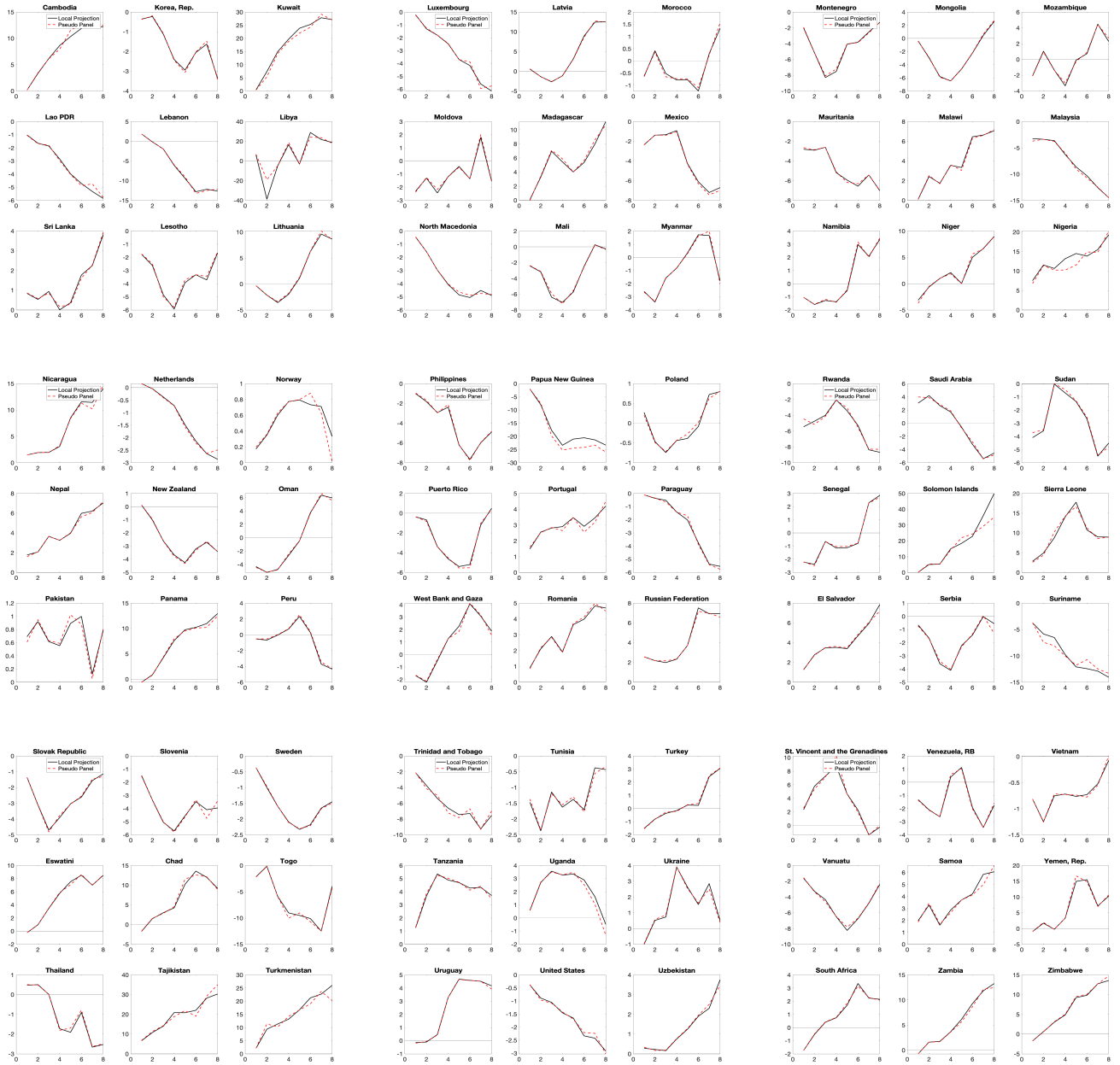


Figure C3: Country Temperature Local-Projection and Pseudo Panel Impulse Responses





## D Tests of Pseudo-Panel Homogeneity Restrictions

The pseudo-panels are formed by groups of 4 (or 3) countries. The test of the homogeneity is a Wald statistic that is distributed  $\chi^2_3$  (or  $\chi^2_2$ ) under the null hypothesis. In the following tables, we list the pseudo-panel group members and the p-value of the test.

Table D1: Country Temperature

Pseudo-Panel Group					p-value	Pseudo-Panel Group					p-value	Pseudo-Panel Group					p-value
Horizon 0						Horizon 1						Horizon 2					
NGA	TJK	LBY	ETH	0.968	NGA	ETH	TJK	TKM	0.988	KWT	KGZ	TJK	ETH	0.999			
KGZ	ALB	GEO	SAU	0.674	KGZ	ALB	GHA	BRN	0.988	ALB	TKM	NGA	SLE	0.989			
IRQ	SLE	RUS	VCT	0.998	KWT	VCT	IND	SLB	0.987	BRN	VCT	MDG	CAF	0.989			
GHA	TKM	AZE	COD	1.000	SLE	CAF	AZE	ARE	1.000	GHA	KHM	AZE	KAZ	1.000			
WSM	LBN	BEN	IRL	1.000	SAU	GEO	COD	TZA	1.000	ARE	TZA	SLB	GEO	1.000			
NPL	DOM	CHN	PRT	0.991	KAZ	KHM	MDG	WSM	1.000	IND	PAN	BOL	CMR	0.996			
GRL	NIC	KAZ	BGR	1.000	IRL	SLV	UGA	BGD	1.000	COD	BGR	NPL	CHL	1.000			
ARE	BGD	SLV	TZA	1.000	PRT	GRL	MWI	BEN	1.000	UGA	ARM	SLV	SWZ	1.000			
IND	BOL	JPN	BWA	0.999	DOM	RUS	BWA	ROU	1.000	CIV	GRL	BGD	ZWE	1.000			
ROU	JAM	LKA	GIN	1.000	CHL	BOL	NPL	BGR	1.000	TCD	ROU	PRT	SAU	1.000			
PAK	ISL	UGA	LVA	0.999	JAM	IRQ	NIC	YEM	1.000	CHN	KEN	BWA	RUS	0.999			
BRN	CIV	CHL	THA	1.000	CHN	ZMB	TCD	CMR	1.000	DOM	NIC	JAM	BTN	1.000			
KWT	ARM	CAN	UZB	0.999	MOZ	ARM	SWZ	PAK	1.000	ZMB	MWI	IRL	WSM	1.000			
POL	FJI	CZE	NGR	0.991	PAN	CZE	JPN	CAN	1.000	IRQ	ARG	NER	CZE	0.999			
KHM	FRA	NLD	EGY	1.000	ZWE	CIV	LKA	UKR	1.000	LKA	BEN	BFA	UKR	1.000			
BEL	NZL	MWI	SLB	1.000	EGY	THA	KEN	ISL	1.000	CAN	PAK	NOR	CPV	1.000			
MDG	ISR	BLZ	AUT	0.998	HTI	MAR	NOR	BLZ	1.000	URY	ISL	ZAF	JOR	1.000			
GMB	CAF	PRY	COL	1.000	UZB	BTN	ESP	BFA	1.000	EGY	UZB	HTI	ESP	1.000			
URY	BTN	DNK	ESP	1.000	NLD	GUY	CRI	URY	1.000	ISR	THA	SDN	PER	1.000			
LUX	SWZ	DEU	EST	1.000	TGO	LBN	JOR	KOR	1.000	JPN	YEM	DNK	TUR	1.000			
HUN	CRI	GUY	LTU	1.000	FRA	GIN	PRY	ISR	1.000	NLD	DEU	PSE	CRI	1.000			
KOR	PRI	SWE	USA	1.000	HRV	POL	DNK	ZAF	1.000	PRY	MAR	SEN	FRA	1.000			
MNG	FIN	CHE	MKD	1.000	BEL	DEU	NER	PER	1.000	BEL	POL	VNM	GMB	1.000			
GRC	AGO	PER	HRV	1.000	PRI	TUR	GRC	COL	1.000	BLZ	USA	AUT	KOR	1.000			
GBR	KEN	PAN	MAR	1.000	USA	SWE	AUT	NZL	0.999	TUN	HRV	BRA	NAM	1.000			
SRB	CMR	ZMB	AUS	1.000	CPV	FJI	CHE	GTM	1.000	MEX	MOZ	DZA	CHE	1.000			
GTM	VNM	JOR	HTI	1.000	HUN	VNM	MDA	LUX	1.000	GRC	IRN	MMR	SWE	1.000			
CYP	YEM	UKR	PHL	1.000	GBR	LVA	MEX	GMB	1.000	GIN	COL	LUX	LAO	1.000			
LAO	NAM	HND	CPV	1.000	BHS	CYP	MKD	NAM	1.000	HUN	BHS	LBN	GTM	1.000			
BHS	VEN	SVK	TUN	0.999	LAO	SRB	FIN	PHL	1.000	GBR	GUY	MDA	COG	0.999			
SVN	TUR	BDI	VUT	1.000	VEN	LTU	PSE	AGO	1.000	NZL	MRT	VEN	LVA	1.000			
ECU	ITA	PSE	TCD	1.000	DZA	HND	IRN	TUN	1.000	PHL	FIN	MKD	CYP	1.000			
ZWE	ZAF	DZA	LSO	1.000	SEN	AUS	COG	LSO	0.999	ITA	PRI	LTU	SRB	1.000			
COG	BIH	BRA	MNE	0.999	ITA	BDI	MRT	MNG	1.000	MYS	BLR	AUS	HND	0.998			
PNG	MOZ	COM	TTO	1.000	BRA	SVK	MLI	ECU	1.000	RWA	AGO	GAB	COM	1.000			
ARG	TGO	SEN	BFA	1.000	VUT	SVN	MYS	MMR	1.000	BDI	VUT	FJI	ECU	0.999			
MDA	MEX	MLI	BLR	1.000	EST	COM	BIH	SDN	1.000	SVK	OMN	LBY	BIH	1.000			
CUB	IRN	MMR	MRT	1.000	TTO	ARG	BLR	GAB	0.995	LSO	SVN	EST	TTO	0.999			
NER	MYS	SUR	SDN	0.988	RWA	MNE	OMN	CUB	1.000	MNG	CUB	TGO	MLI	0.999			
OMN	GAB	RWA	SDN	0.980	SUR	PNG	IDN		0.804	SUR	MNE	IDN		0.865			
IDN	GNB	GNQ		0.056	GNB	GNQ	LBY		0.022	GNB	PNG	GNQ		0.014			
Horizon 3						Horizon 4						Horizon 5					
TJK	KWT	KGZ	LBY	0.991	KWT	TJK	KGZ	SLB	0.987	LBY	KWT	KGZ	SLB	0.998			
ETH	SLB	SLE	TKM	0.999	SLE	TKM	ETH	YEM	0.997	TJK	TKM	CMR	ETH	0.996			
NGA	ALB	IRQ	VCT	0.934	NGA	ALB	KHM	TCD	0.946	ALB	YEM	AZE	NGA	0.998			
KHM	AZE	PAN	KAZ	0.995	KAZ	PAN	ZWE	BOL	0.998	TCD	KAZ	GEO	KHM	0.996			
BOL	SWZ	ARM	MDG	0.985	AZE	NIC	GEO	ARM	1.000	NIC	ARM	BOL	SLE	1.000			
GHA	GEO	TZA	ZWE	1.000	CMR	SWZ	CHN	BRN	0.991	CHN	GAB	PAN	ZWE	1.000			
CHL	IND	CHN	TCD	1.000	ZMB	GHA	GAB	IND	0.995	ZMB	LVA	SWZ	BRN	0.988			
CIV	BRN	UKR	GRL	1.000	CHL	BGR	IRQ	TZA	1.000	RUS	CPV	GHA	IRN	1.000			
ARE	ZMB	MWI	SLV	1.000	URY	DOM	VCT	COD	1.000	MWI	LTU	IRQ	CIV	1.000			
DOM	URY	YEM	UGA	1.000	CIV	MDG	NPL	IRN	1.000	NPL	MDG	BTN	NER	0.996			
NPL	CMR	NIC	COD	1.000	CPV	RUS	WSM	ROU	1.000	IND	BLR	HRV	SLV	1.000			
PRT	WSM	BEN	JAM	0.999	GRL	PRT	SLV	UGA	1.000	BWA	URY	DOM	CAF	1.000			
BGR	BWA	RUS	CPV	1.000	MWI	HRV	LVA	BEN	1.000	TZA	WSM	PSE	ROU	1.000			
NER	CAF	ROU	SAU	1.000	BWA	JAM	UKR	PER	1.000	BRA	OMN	AGO	JAM	1.000			
BTN	PSE	CZE	BRA	1.000	PSE	BTN	ARE	ZAF	0.999	BGR	ZAF	CHL	NAM	1.000			
BFA	KEN	GMB	BGD	1.000	CAF	EGY	UZB	LTU	1.000	PRT	UGA	COD	GRL	0.999			
NOR	UZB	ZAF	PER	1.000	VEN	CZE	BGD	PAK	1.000	VCT	UZB	JOR	EGY	1.000			
EGY	PAK	IRN	VEN	1.000	NOR	BRA	JOR	AGO	1.000	LKA	MMR	UKR	BGD	1.000			
JOR	ISL	GAB	LKA	1.000	LKA	MMR	TUR	KEN	1.000	GMB	PAK	NOR	MOZ	1.000			
TUR	ISR	HRV	CAN	1.000	ISL	BLR	NER	CAN	1.000	CZE	BHS	PER	TUR	0.999			
ESP	IRL	POL	SDN	1.000	MOZ	GMB	ESP	POL	0.999	ESP	CAN	BFA	POL	0.999			
DEU	NLD	VNM	MAR	1.000	BHS	MDA	OMN	NAM	1.000	KEN	BEN	BLZ	CRI	1.000			
BLR	DNK	MMR	ARG	1.000	SAU	HUN	VNM	MAR	1.000	VNM	SEN	HUN	THA	1.000			
MEX	BEL	HTI	SEN	1.000	BFA	DNK	DEU	SEN	0.999	DNK	ISR	ISL	MAR	1.000			
LVA	FRA	MDA	JPN	1.000	ISR	SDN	TUN	AUT	0.999	DEU	MDA	AUT	SRB	1.000			
NAM	PRY	AUT	USA	1.000	NLD	FRA	CRI	CHE	1.000	FRA	BEL	TUN	CHE	0.999			
CRI	CHE	HUN	TUN	1.000	BEL	USA	THA	PRY	0.999	VEN	BIH	KOR	GRC	1.000			
GRC	THA	LTU	DZA	1.000	DZA	SRB	JPN	SWE	1.000	NLD	SWE	MNG	USA	0.999			
RWA	SWE	COL	PHL	1.000	GRC	IRL	COL	GBR	0.999	JPN	MLI	SVK	SDN	1.000			
KOR	GBR	LUX	OMN	1.000	KOR	SVK	LBY	RWA	1.000	DZA	COL	EST	SAU	1.000			
LAO	GTM	MOZ	BLZ	0.998	BIH	LUX	LSO	BDI	1.000	NZL	LSO	GBR	SVN	1.000			
NZL	ITA	BHS	SVK	1.000	LAO	EST	HTI	MNE	1.000	PRY	FIN	MNE	LUX	1.000			
FIN	COG	MKD	SRB	1.000	NZL	GTM	MEX	FIN	1.000	BDI	LAO	IRL	MKD	1.000			
EST	BDI	AGO	PRI	1.000	ITA	SVN	MNG	MKD	0.999	PRI	ARE	RWA	GTM	1.000			
GIN	BIH	MRT	CYP	0.999	FJI	PRI	MLI	ARG	1.000	MEX	ITA	HTI	MRT	1.000			
HND	SVN	ECU	LSO	1.000	MRT	BLZ	PHL	CYP	1.000	AUS	VUT	FJI	TTO	1.000			
AUS	FJI	LBN	MYS	1.000	AUS	COG	HND	ECU	1.000	PHL	ARG	ECU	COG	1.000			
GUY	COM	MNG	VUT	1.000	AUS	TTO	VUT	COM	0.982	CYP	HND	GIN	COM	0.986			
TTO	CUB	MLI	MNE	0.999	MYS	CUB	LBN	TGO	0.999	TGO	MYS	SUR	CUB	0.994			
TGO	SUR	IDN		0.924	GUY	SUR	IDN		0.865	LBN	GUY	IDN		0.977			
GNB	PNG	GNQ		0.100	GNB	PNG	GNQ		0.070	GNB	PNG	GNQ		0.145			



Country Temperature continued									
Pseudo-Panel Group				p-value	Pseudo-Panel Group				p-value
Horizon 6					Horizon 7				
SLB	KGZ	TJK	KWT	0.983	SLB	KGZ	TJK	ALB	0.934
CMR	ETH	TKM	LBY	1.000	ETH	GAB	KWT	CMR	0.999
GAB	ALB	AZE	KAZ	0.969	TKM	GEO	AZE	NGA	0.981
GEO	NGA	ARM	BOL	0.996	LBY	ARM	KAZ	CPV	0.996
CHN	ZWE	IRN	LVA	1.000	BOL	CHN	NIC	ZWE	0.992
KHM	CPV	TCO	ZMB	1.000	ZMB	PAN	LVA	KHM	0.998
NIC	PAN	LTU	IRQ	0.996	IRN	MDG	YEM	CIV	0.999
CIV	SLE	BLR	MDG	0.999	TCO	NER	SLE	BLR	1.000
YEM	SWZ	RUS	BGR	1.000	BRA	LTU	SWZ	GHA	1.000
NER	MWI	GHA	OMN	1.000	SLV	IND	MWI	NPL	1.000
NPL	SLV	BRN	BRA	1.000	RUS	JOR	HRV	WSM	0.999
WSM	HRV	JAM	ROU	1.000	OMN	BGR	CAF	DOM	1.000
CAF	JOR	URY	DOM	1.000	ROU	CHL	JAM	PRT	1.000
MOZ	IND	BTN	TZA	1.000	URY	BRN	LKA	BTN	1.000
CHL	PRT	PSE	BWA	0.999	UZB	TZA	BLZ	NAM	0.999
UKR	GRL	TUR	UZB	1.000	KEN	GMB	BWA	TUR	1.000
SEN	LKA	ZAF	EGY	1.000	SEN	GRL	MNG	MOZ	1.000
GMB	NAM	MDA	MMR	1.000	ZAF	EGY	AGO	IRQ	1.000
UGA	KEN	BLZ	CZE	0.998	PSE	CRI	BGD	MAR	0.999
POL	NOR	CAN	MNG	1.000	POL	PAK	ESP	CZE	1.000
CRI	MAR	MLI	ISR	1.000	BHS	UKR	PRI	CAN	1.000
ESP	PAK	SRB	BFA	1.000	NOR	VNM	BIH	VCT	0.999
TUN	AGO	VNM	BIH	1.000	MLI	ISR	TUN	COD	1.000
BGD	HUN	COD	PRI	1.000	UGA	SRB	SVK	MNE	0.997
EST	BHS	VCT	AUT	1.000	SWE	CHE	BFA	MDA	1.000
DNK	DEU	SVK	KOR	1.000	DEU	LSO	BEN	VEN	1.000
GRC	SWE	JPN	CHE	1.000	MMR	DNK	AUT	EST	1.000
FRA	BEL	ISL	USA	0.997	HUN	FRA	GRC	VUT	1.000
MNE	NLD	THA	NZL	1.000	ISL	THA	BEL	NLD	0.995
COL	DZA	FIN	BEN	1.000	FIN	USA	JPN	COL	1.000
GBR	VEN	PER	LSO	1.000	DZA	KOR	NZL	SVN	1.000
SVN	MKD	VUT	LAO	0.993	TGO	AUS	PER	GBR	1.000
PRY	SAU	MRT	SDN	1.000	SDN	SAU	PHL	MKD	1.000
LUX	PHL	AUS	GIN	0.999	GIN	PRY	LAO	LUX	0.997
FJI	MEX	IRL	GTM	1.000	MEX	IRL	MRT	TTO	1.000
ARG	ITA	RWA	HND	1.000	HND	ARG	RWA	GTM	0.998
TTO	ECU	BDI	ARE	1.000	ITA	COM	ECU	BDI	0.988
HTI	CYP	COM	COG	0.998	FJI	CYP	LBN	COG	0.999
LBN	TGO	MYS	SUR	1.000	IDN	HTI	ARE	SUR	1.000
CUB	GUY	IDN		0.983	MYS	CUB	GUY		0.898
GNB	PNG	GNQ		0.250	PNG	GNB	GNQ		0.385

Table D2: Global Temperature

Pseudo-Panel Group					Pseudo-Panel Group					Pseudo-Panel Group				
Horizon 0				p-value	Horizon 1				p-value	Horizon 2				p-value
TJK	TKM	ARE	LYB	0.527	TJK	TKM	UKR	KGZ	0.743	LYB	UKR	KGZ	TKM	0.934
IRQ	AGO	ALB	UKR	0.999	ARE	HRV	ALB	RUS	0.997	TJK	RUS	ARE	HRV	0.959
IND	GEO	IRL	CYP	0.995	RWA	AGO	GEO	LVA	1.000	RWA	ROU	LVA	MMR	0.993
HRV	LTU	COD	BTN	0.993	CZE	ROU	IND	BGD	0.998	KWT	IRN	ALB	CZE	0.999
LVA	SLB	BGD	CZE	1.000	MNE	BGR	GHA	CYP	0.999	AGO	IND	BGD	SEN	0.999
DOM	CHN	HUN	ETH	1.000	LTU	SLB	IRN	BRN	0.999	MDG	BRN	GEO	GHA	0.998
MDG	KGZ	NER	GIN	1.000	ETH	IRL	TZA	HUN	1.000	TCD	MNE	TZA	BGR	1.000
MKD	BGR	SWZ	BRN	0.998	NIC	COD	MDG	SEN	1.000	KAZ	NIC	GIN	LTU	1.000
CUB	TZA	SEN	SVN	1.000	KWT	KHM	GIN	MMR	1.000	COM	HUN	COD	CUB	1.000
LKA	MMR	PHL	RUS	1.000	SVN	BIH	MKD	WSM	1.000	SAU	BIH	SDN	WSM	1.000
TCD	UGA	EST	BIH	1.000	NER	FJI	UGA	CAF	1.000	CYP	KHM	IRL	FJI	1.000
SLV	CRI	SWE	CMR	1.000	CUB	SAU	DOM	TCD	0.999	BEN	NER	SVN	NGA	1.000
NIC	FJI	JAM	CHE	1.000	CHN	ARM	PHL	LKA	1.000	PAN	ARM	PHL	CAF	1.000
KHM	CPV	NPL	RWA	1.000	ZAF	BFA	SDN	SWE	0.996	MKD	ETH	LKA	SRB	1.000
MNE	BOL	KEN	IRN	1.000	BEN	SLV	NPL	CHE	0.999	CHN	EST	ZMB	BFA	1.000
CAF	VUT	ESP	NGA	1.000	BTN	SLE	NZL	NAM	1.000	NPL	SLE	GUY	JAM	1.000
ROU	BEN	COM	GRL	1.000	MNG	PAN	JAM	KAZ	1.000	SLV	NZL	ZAF	UGA	0.999
FIN	KWT	ARM	NAM	1.000	LAO	MWI	CRI	COM	1.000	NAM	CHE	PER	MNG	1.000
SRB	WSM	GTM	GHA	1.000	NGA	HTI	SWZ	BOL	1.000	POL	CHL	BOL	DOM	1.000
SAU	CAN	GMB	GBR	1.000	CHL	ZMB	THA	POL	1.000	MLI	CRI	SWZ	LAO	1.000
THA	SVK	MNG	AUT	1.000	PAK	GMB	ESP	PER	1.000	JOR	GMB	SWE	TTD	1.000
TGO	POL	FRA	NZL	1.000	GUY	CPV	TGO	GTM	1.000	PAK	HND	CPV	IND	1.000
PER	ZAF	UZB	LAO	0.999	ITA	FRA	BEL	UZB	1.000	VEN	TUR	GTM	CMR	1.000
LUX	BHS	PAK	PRT	1.000	LUX	LSO	CAN	KEN	1.000	HTI	KEN	DZA	VNM	1.000
HND	CHL	SLE	GRC	1.000	NLD	TTO	AUT	EST	1.000	AUT	TUN	THA	CAN	1.000
BEL	ITA	USA	AUS	0.998	FIN	SVK	GRL	AUS	0.998	VUT	MRT	GNB	MYS	1.000
EGY	NLD	CIV	MLI	1.000	MAR	JOR	PRT	MRT	1.000	AUS	MWI	MEX	NLD	1.000
JPN	VNM	KAZ	DEU	1.000	EGY	BLZ	BHS	DEU	1.000	TGO	MAR	SLB	SVK	1.000
BDI	GUY	COL	MAR	1.000	MLI	SRB	VNM	GRC	1.000	ESP	FRA	BEL	BTN	0.999
BLZ	ISL	SDN	LSO	1.000	GBR	VUT	CMR	HND	1.000	GRC	SUR	ITA	CIV	1.000
HTI	TUR	TTO	PRY	1.000	MYS	TUR	DZA	COG	1.000	UZB	BLR	VCT	URY	1.000
URY	SUR	PAN	BFA	1.000	USA	MEX	ISL	IDN	1.000	EGY	FIN	DEU	GRL	1.000
VEN	MEX	JOR	ZWE	1.000	PRY	TUN	CIV	JPN	1.000	BLZ	USA	COG	ISR	1.000
ARG	DNK	VCT	MWI	1.000	DNK	COL	ECU	VEN	1.000	GBR	ECU	DNK	LUX	0.996
DZA	PNG	ECU	NOR	1.000	SUR	URY	MDA	PNG	1.000	JPN	PNG	MDA	ARG	0.999
ISR	IDN	PRI	TUN	0.998	VCT	ZWE	NOR	ISR	0.986	COL	BHS	PRT	LSO	1.000
MYS	BWA	KOR	COG	1.000	PRI	ARG	BDI	BWA	0.990	ISL	NOR	BDI	PRY	0.956
AZE	MRT	MOZ	ZMB	0.985	KOR	LBN	BLR	BRA	0.977	LBN	ZWE	PRI	BRA	0.994
BRA	LBN	BLR	MDA	0.998	GNB	GAB	MOZ	AZE	0.999	KOR	OMN	AZE	GAB	0.998
PSE	GAB	YEM	IRQ	0.994	IRQ	OMN	PSE	IRQ	0.995	BWA	IRQ	MOZ	OMN	0.941
OMN	GNB	GNQ		0.370	YEM	LYB	GNQ		0.528	YEM	PSE	GNQ		0.546
Horizon 3					Horizon 4					Horizon 5				
LYB	UKR	TJK	KGZ	0.557	UKR	LYB	TJK	KGZ	0.922	LYB	KWT	UKR	LVA	0.629
TKM	RUS	HRV	RWA	0.976	TKM	LVA	KWT	HRV	0.794	TJK	TKM	LTU	HRV	0.987
MMR	IRN	LVA	ROU	0.992	RUS	IRN	MMR	TCD	0.994	RUS	KGZ	AZE	KAZ	0.921
KWT	ARE	KAZ	TCD	0.999	KAZ	LTU	ARM	ROU	0.996	ARM	MMR	TCD	AGO	0.962
NIC	GHA	BGD	CZE	0.996	NIC	SRB	AGO	GHA	0.990	SRB	ALB	IRN	NIC	0.992
BRN	ALB	IND	MNE	1.000	RWA	NGA	MNE	ALB	1.000	BLR	ROU	BGR	KHM	1.000
ARM	LTU	NGA	SRB	1.000	CZE	BGD	BRN	PER	1.000	PER	JOR	COD	EST	1.000
SAU	PAN	TZA	SEN	0.999	BGR	COD	JOR	SLE	1.000	CZE	NGA	BIH	GHA	0.999
BGR	AGO	EST	COM	1.000	BIH	EST	AZE	ARE	1.000	MNG	MNE	SLE	RWA	1.000
HUN	MDG	BIH	COD	1.000	PAN	TZA	NER	SAU	1.000	BRN	CHN	SVK	NAM	0.984
SLE	SDN	PER	CHN	0.999	IND	KHM	CHN	SDN	0.996	BGD	TTO	PAN	TZA	1.000
JOR	NER	BEN	WSM	1.000	HUN	SEN	YEM	NAM	0.999	NER	IND	SDN	YEM	1.000
KHM	ZMB	PHL	ETH	1.000	ZMB	SLV	MNG	GUY	1.000	ZMB	SAU	SLV	GEO	0.998
GEO	VEN	BFA	GIN	1.000	COM	TTO	CUB	SVK	1.000	GUY	CUB	LKA	COM	1.000
LKA	CUB	SLV	SVN	1.000	LKA	BLR	MDG	VEN	1.000	SLB	MKD	MDG	SEN	1.000
GUY	MNG	NPL	DOM	0.999	BEN	SLB	GEO	ETH	1.000	WSM	ETH	HUN	UGA	0.999
JAM	NZL	NAM	CAF	1.000	CHL	WSM	BFA	DOM	1.000	ARG	PNG	VEN	SVN	1.000
CHL	BLR	BOL	TTO	1.000	JAM	PHL	SVN	MKD	1.000	CHL	ARE	MWI	ZAF	1.000
ZAF	MKD	CRI	IRL	0.999	NZL	BOL	NPL	CRI	0.999	BOL	JAM	CRI	BFA	1.000
CYP	SVK	FJI	HND	1.000	UGA	ZAF	PNG	FJI	1.000	NZL	PHL	BEN	NPL	0.998
GMB	CHE	POL	TUR	1.000	MRT	ARG	TUR	HND	0.997	DOM	MRT	TUR	SUR	0.998
UGA	MLI	SWZ	LAO	0.999	MDA	CMR	MLI	IRL	1.000	HND	BTN	LAO	POL	0.999
DZA	PAK	MDA	SWE	1.000	SUR	DZA	LAO	POL	1.000	CAF	CAN	CPV	URY	0.999
MWI	VNM	URY	MAR	1.000	SWE	GTM	CHE	GIN	1.000	LSO	GTM	FJI	CMR	1.000
GTM	IDN	KEN	MRT	1.000	BTN	URY	MAR	CAN	1.000	ECU	SWE	MAR	DZA	1.000
CMR	VUT	TUN	VCT	1.000	CAF	LSO	MWI	PAK	1.000	TUN	UZB	GRL	COL	1.000
UZB	ARG	HTI	ECU	1.000	ECU	VNM	SWZ	TUN	1.000	CHE	IRL	AUS	VNM	0.997
CAN	PNG	AUT	SLB	1.000	UZB	VCT	CYP	AUS	1.000	VCT	KEN	MDA	MOZ	1.000
GRC	EGY	AUS	SUR	1.000	CIV	COL	GRL	BDI	1.000	VUT	PAK	IDN	SWZ	0.999
TGO	NLD	CIV	BEL	1.000	GMB	AUT	CPV	KEN	1.000	MLI	GMB	CIV	LBN	1.000
CPV	FRA	ESP	COL	0.999	VUT	IDN	NLD	FRA	0.997	AUT	HTI	BEL	GBR	0.966
MEX	LSO	DNK	THA	1.000	BEL	EGY	USA	GRC	0.990	EGY	GIN	NLD	USA	1.000
AZE	ITA	LUX	MYS	1.000	DEU	HTI	GBR	DNK	1.000	ISR	TGO	THA	FRA	1.000
USA	DEU	FIN	GRL	0.999	ISL	MOZ	MEX	THA	1.000	DEU	BDI	COG	CYP	1.000
COG	BTN	ISR	ISL	1.000	ESP	LUX	ITA	TGO	1.000	MYS	ISL	DNK	GRC	1.000
GBR	JPN	GNB	NOR	0.977	ISR	MYS	FIN	COG	0.997	BRA	LUX	ESP	MEX	0.986
BHS	BLZ	BDI	PRT	0.993	NOR	LBN	JPN	BRA	0.968	FIN	NOR	ITA	BHS	0.993
BRA	PRY	LBN	PRI	0.997	BHS	BLZ	PRT	PRI	0.999	JPN	BLZ	PRI	GNB	0.979
GAB	ZWE	OMN	IRQ	0.995	GNB	PRY	KOR	GAB	0.972	PRY	KOR	PRT	GAB	0.929
KOR	MOZ	YEM		0.999	ZWE	OMN	IRQ		0.955	OMN	IRQ	BWA		0.966
BWA	PSE	GNQ		0.183	BWA	PSE	GNQ		0.142	ZWE	PSE	GNQ		0.513

## Global Temperature continued

Pseudo-Panel Group				p-value	Pseudo-Panel Group				p-value
Horizon 6					Horizon 7				
LBY	KWT	UKR	LVA	0.248	LBY	KWT	UKR	LVA	0.423
AZE	HRV	TKM	RUS	0.999	AZE	TJK	HRV	TKM	0.998
TJK	KGZ	KAZ	LTU	1.000	AGO	ALB	KGZ	KAZ	0.996
ALB	MMR	SRB	TCO	0.993	RUS	MMR	LTU	GEO	0.989
AGO	ARM	BLR	BGR	0.861	SRB	TCO	MNG	BGR	0.996
MNG	IRN	NIC	COD	0.996	ETH	BLR	NIC	COD	1.000
PER	ROU	KHM	GEO	1.000	PER	NGA	ARM	IRN	0.990
NGA	ETH	CZE	SLE	0.997	SLE	ROU	KHM	CUB	0.996
JOR	RWA	ZMB	BIH	1.000	SAU	RWA	GHA	ZMB	1.000
GHA	CUB	SAU	SDN	1.000	SDN	JOR	CHN	TTO	0.975
CHN	MNE	BRN	NAM	0.998	GUY	CZE	BGD	PAN	1.000
TTO	WSM	GUY	SVK	1.000	IND	VEN	TZA	SLV	0.994
TZA	EST	PAN	BGD	1.000	BRN	NAM	MDG	WSM	0.999
IND	MDG	SLV	NER	0.999	LKA	IRQ	NER	BOL	1.000
YEM	ARG	VEN	LKA	0.998	BIH	ARG	SEN	URY	0.999
SEN	MKD	COM	UGA	0.995	SVK	ZAF	COM	UGA	1.000
BOL	ZAF	PNG	CHL	0.994	PHL	MNE	MKD	SUR	0.997
SUR	MWI	CRI	SLB	1.000	SLB	CRI	MWI	CAF	0.999
PHL	URY	GRL	MRT	1.000	CHL	EST	YEM	NPL	1.000
NZL	BFA	JAM	TUR	0.999	HND	PNG	BFA	TUR	0.999
SVN	CPV	NPL	HND	1.000	GRL	BTN	NZL	BEN	1.000
HUN	LAO	DOM	CAN	1.000	LAO	MRT	DOM	ECU	0.991
BEN	POL	BTN	DZA	1.000	CAN	LSO	LBN	MAR	1.000
LBN	ECU	MAR	UZB	1.000	DZA	JAM	SVN	COL	1.000
COL	MOZ	CAF	ARE	1.000	UZB	GTM	HUN	FJI	1.000
TUN	GTM	SWE	FJI	0.999	POL	CPV	VUT	TUN	0.999
LSO	CMR	VUT	MLI	1.000	SWE	KEN	MOZ	CHE	0.999
CHE	KEN	AUS	VNM	0.991	TGO	CIV	AUS	CMR	0.999
CIV	IDN	VCT	GMB	0.999	IDN	VNM	MLI	ARE	1.000
MDA	PAK	SWZ	BRA	1.000	BRA	HTI	SWZ	ISL	0.997
ISR	ISL	HTI	USA	0.996	MDA	PAK	GMB	BEL	0.986
GBR	AUT	TGO	IRQ	1.000	ISR	GIN	USA	NLD	1.000
BEL	NLD	IRL	EGY	1.000	EGY	AUT	IRL	GBR	1.000
DEU	COG	MYS	DNK	0.999	VCT	FIN	COG	DEU	1.000
FIN	FRA	THA	GIN	1.000	GNB	FRA	DNK	BDI	1.000
BDI	MEX	GRC	NOR	0.998	MYS	BHS	MEX	THA	0.979
GNB	LUX	CYP	ESP	0.999	NOR	GRC	ESP	PRY	0.998
JPN	ITA	BHS	PRI	0.992	LUX	CYP	ITA	JPN	0.999
PRY	BLZ	GAB	OMN	0.973	GAB	PRI	PRT	BLZ	0.846
KOR	PRT	BWA		0.742	OMN	KOR	BWA		0.676
PSE	ZWE	GNQ		0.637	PSE	ZWE	GNQ		0.791

Table D3: Idiosyncratic Temperature

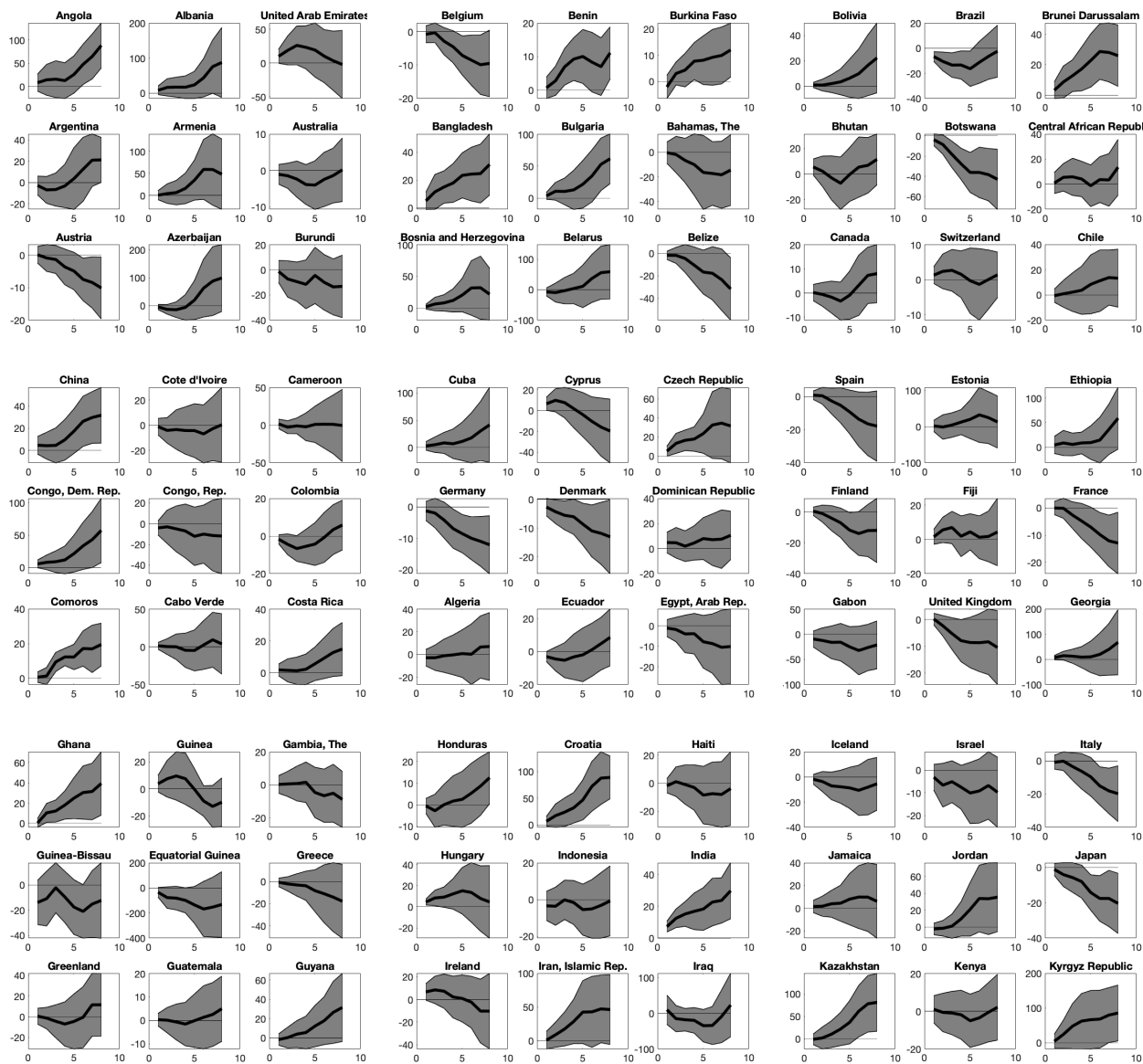
Pseudo-Panel Group					Pseudo-Panel Group					Pseudo-Panel Group				
Horizon 0				p-value	Horizon 1				p-value	Horizon 2				p-value
NGA	TJK	KGZ	LBY	0.864	NGA	TJK	ETH	VCT	0.959	KWT	ETH	TJK	KGZ	0.950
SAU	ETH	VCT	SLE	0.995	KWT	BRN	KGZ	TKM	0.994	VCT	NGA	ALB	CAF	1.000
GHA	AZE	LBN	GEO	0.995	YEM	AZE	ALB	GHA	0.999	SLE	TKM	AZE	CIV	1.000
IRQ	RUS	NPL	WSM	1.000	CAF	SLE	SAU	IRQ	0.999	BRN	SLB	KHM	KAZ	0.992
BEN	KAZ	PRT	JPN	0.999	MOZ	KAZ	CIV	KHM	0.999	CMR	YEM	ZWE	BOL	0.989
CIV	ALB	GRL	DOM	0.999	PRT	CMR	WSM	GRL	0.997	PRT	NPL	IRQ	GHA	1.000
BWA	NIC	ROU	IRL	1.000	MWI	BWA	IND	NPL	0.999	MDG	BRA	UGA	MOZ	1.000
TKM	BOL	BGR	MWI	1.000	SLV	BOL	JAM	UGA	1.000	GEO	GRL	SWZ	ARM	1.000
YEM	SLV	PAK	PRI	1.000	IRL	ZMB	ARE	CHL	1.000	CHL	KEN	MWI	BWA	0.999
JAM	ISL	ISR	COL	0.999	DOM	GEO	JPN	ZWE	1.000	SLV	PAN	PSE	BTN	1.000
THA	ZMB	CHL	BGD	1.000	COD	PRI	SLB	BEN	1.000	BGR	CHN	ARG	ARE	1.000
KWT	BLZ	CAN	EGY	1.000	MAR	MDG	EGY	CAN	1.000	DOM	SAU	JAM	EGY	0.999
ARM	UZB	POL	NOR	1.000	COL	PAK	SWZ	ARM	1.000	IND	ZMB	ISL	CAN	1.000
NLD	BEL	PAN	FRA	0.985	ISR	ISL	KEN	ROU	1.000	ISR	COD	NOR	JPN	1.000
UGA	KHM	BRA	PRY	1.000	KOR	LBN	BLZ	BGD	1.000	COL	IRL	WSM	GAB	1.000
NZL	COD	DNK	KOR	1.000	NOR	THA	BRA	HTI	0.999	CPV	BGD	ESP	PAK	1.000
LVA	URY	LKA	FJI	1.000	UZB	CHN	PAN	TCD	1.000	URY	PRY	UZB	ROU	1.000
AUT	GMB	DEU	ARE	0.999	URY	BGR	PRY	NLD	1.000	THA	KOR	BLZ	JOR	1.000
GUY	LUX	CZE	TZA	1.000	ESP	JOR	BTN	GUY	1.000	HTI	DNK	DEU	MAR	0.999
USA	GRC	CHN	SWZ	1.000	RUS	DNK	CZE	TGO	1.000	PRI	BFA	NLD	BHS	1.000
ESP	EST	MNG	MAR	1.000	FRA	GRC	USA	DEU	1.000	ZAF	USA	FRA	NER	1.000
FIN	SWE	GIN	PER	1.000	TUR	TZA	BFA	MDA	1.000	CZE	TUR	BEL	PER	1.000
AUS	SRB	IND	BRN	1.000	BEL	POL	MEX	NIC	0.999	TZA	TCD	VNM	LBN	0.999
MKD	JOR	HTI	GTM	0.999	CRI	PER	PSE	VEN	1.000	MEX	GRC	SDN	GMB	1.000
GBR	CAF	HUN	VEN	1.000	NZL	LKA	GTM	AUT	1.000	AUT	LKA	CRI	POL	1.000
LTU	BTN	VNM	CHE	0.999	BHS	SRB	SWE	GBR	1.000	LUX	TUN	NIC	MDA	1.000
TUN	COG	HND	MOZ	1.000	VNM	CPV	ZAF	LUX	1.000	COG	GBR	SWE	DZA	1.000
PSE	KEN	MDA	CRI	1.000	GMB	FIN	NER	GAB	1.000	GTM	RUS	BEN	NZL	0.998
ECU	BHS	HRV	LAO	1.000	MKD	HND	FJI	CHE	0.999	NAM	MRT	CHE	LAO	1.000
MDG	BLR	BDI	TUR	1.000	HUN	BDI	COG	TUN	1.000	GUY	FIN	OMN	SEN	1.000
CPV	ZWE	NAM	SVK	1.000	AUS	HRV	LVA	LAO	1.000	ITA	HUN	MKD	BDI	1.000
CMR	ARG	BIH	DZA	1.000	DZA	ECU	NAM	MLI	0.999	AUS	VEN	BLR	SRB	1.000
ITA	LSO	BFA	ZAF	1.000	MRT	LTU	GIN	OMN	1.000	HRV	ECU	HND	LVA	0.999
PNG	MNE	SLB	MEX	1.000	LSO	ARG	BIH	EST	1.000	LTU	BIH	LSO	SVK	0.980
MRT	MLI	COM	SVN	1.000	ITA	SVK	MNG	BLR	1.000	GIN	IRN	MYS	FJI	1.000
PHL	TTO	VUT	TCD	1.000	VUT	SEN	SDN	COM	1.000	VUT	COM	EST	SUR	1.000
GAB	TGO	SEN	OMN	1.000	MYS	PHL	CYP	SUR	1.000	TGO	RWA	CYP	MNG	0.999
CYP	AGO	UKR	CUB	1.000	IRN	SVN	MNE	RWA	0.996	MLI	PHL	CUB	SVN	0.996
MYS	SUR	NER	SDN	0.998	TTO	MMR	CUB	UKR	1.000	MMR	MNE	TTO	AGO	0.994
IRN	MMR	RWA	GNB	0.949	AGO	PNG	GNB	UKR	0.932	UKR	LBY	GNB	0.952	
IDN	GNB	GNQ		0.337	IDN	GNQ	LBY		0.364	PNG	IDN	GNQ		0.378
Horizon 3					Horizon 4					Horizon 5				
KWT	TJK	SLB	KGZ	0.888	KWT	GAB	TJK	KGZ	0.922	GAB	KWT	KGZ	CMR	0.965
ETH	SLE	IRQ	VCT	0.993	SLE	ETH	SLB	ZWE	1.000	TJK	SLB	TKM	ZWE	0.998
TKM	CIV	NGA	KHM	1.000	TKM	YEM	KHM	ALB	0.985	LBY	CIV	ETH	KHM	0.999
AZE	ALB	ZWE	GAB	1.000	CIV	CMR	GEO	IRQ	1.000	GEO	YEM	KAZ	AZE	0.999
YEM	KAZ	BOL	BRA	1.000	KAZ	BOL	AZE	ARM	0.994	ARM	BOL	IRQ	OMN	1.000
SWZ	ARM	PSE	CMR	0.998	SWZ	NGA	PSE	BRA	1.000	ALB	SWZ	BRA	ZMB	0.999
PRT	MWI	GEO	GRL	0.997	VCT	PRT	PAN	ZMB	0.991	PSE	SLE	CPV	PRT	0.998
CHL	CPV	UGA	BWA	0.999	CPV	OMN	MWI	DOM	1.000	BWA	NPL	CAF	MWI	0.999
NPL	PAN	DOM	URY	1.000	URY	BHS	BWA	GRL	1.000	BHS	NGA	CHN	DOM	1.000
ZMB	BTN	MDG	CHN	0.999	CHL	NPL	EGY	CAF	1.000	URY	PAN	EGY	BTN	1.000
JAM	SLV	WSM	EGY	1.000	UGA	CHN	WSM	BTN	1.000	BLZ	VCT	ESP	JAM	0.998
KEN	NOR	ISR	UZB	1.000	KEN	JAM	ESP	UZB	1.000	IRN	GRL	UZB	WSM	1.000
CAF	ISL	PAK	ESP	1.000	MOZ	MDG	BGR	NOR	1.000	GMB	LVA	CHL	LTU	0.999
OMN	GMB	MEX	MOZ	1.000	PAK	ISL	ZAF	SLV	0.999	MDG	PAK	MOZ	NOR	0.999
PRY	NER	CAN	BGR	1.000	ROU	GMB	ISR	PRY	1.000	THA	ZAF	NER	UGA	1.000
IND	DEU	ZAF	ARE	1.000	CAN	THA	TUR	DEU	0.999	SLV	KEN	NIC	GRC	1.000
CZE	JPN	NLD	DNK	1.000	USA	DNK	IND	CZE	1.000	ROU	PRI	BLR	ISR	1.000
USA	COL	TUR	ARG	1.000	JPN	GRC	FRA	POL	1.000	KOR	HRV	DNK	RUS	1.000
FRA	KOR	THA	BLZ	1.000	TCD	MDA	VNM	NIC	1.000	FRA	ISL	JPN	CAN	1.000
BEL	IRL	BFA	PRI	1.000	PRI	AUT	NLD	PER	1.000	DEU	AUT	POL	VNM	1.000
POL	VNM	HTI	MAR	1.000	BEN	BEL	MAR	KOR	1.000	TUR	MDA	TCD	USA	0.999
GHA	PER	GRC	MDA	1.000	LVA	COL	BRN	HRV	1.000	BEL	IND	CZE	PRY	0.999
JOR	AUT	BEN	BHS	1.000	TUN	ARE	IRN	BLR	1.000	NLD	BFA	BRN	NAM	0.999
BRN	ROU	SAU	TUN	1.000	LTU	BLZ	RUS	JOR	1.000	MLI	BGR	JOR	HUN	1.000
GBR	BLR	TZA	LUX	0.998	HUN	CHE	GBR	BFA	1.000	CHE	MAR	SWE	GHA	1.000
SDN	COD	SWE	BGD	1.000	ITA	SWE	MEX	BGD	1.000	BGD	COL	GBR	BIH	1.000
CHE	ITA	TCD	COG	1.000	GHA	IRL	VEN	SDN	1.000	ITA	NZL	TUN	FIN	1.000
CRI	DZA	RUS	GTM	1.000	LUX	NER	HTI	DZA	1.000	SEN	LUX	MEX	BDI	1.000
NAM	HUN	VEN	SEN	1.000	BDI	TZA	SEN	FIN	0.998	DZA	LSO	CRI	BEN	1.000
LTU	BDI	NZL	LKA	1.000	NZL	NAM	GTM	BIH	1.000	MNG	PER	EST	LKA	1.000
LVA	LAO	FIN	HRV	1.000	LKA	CRI	LSO	SVK	1.000	TZA	SDN	SRB	SVK	1.000
MKD	NIC	IRN	LBN	0.999	SRB	MKD	COG	LAO	1.000	MNE	IRL	MKD	HTI	1.000
SVK	BIH	RWA	EST	0.999	EST	SAU	RWA	FJI	1.000	GTM	SVN	LAO	AUS	0.998
ECU	SRB	MRT	AUS	1.000	COD	ARG	MNE	MLI	1.000	COG	FJI	ECU	RWA	1.000
HND	FJI	LSO	GUY	0.997	MNG	ECU	TGO	AUS	0.999	GIN	CYP	VUT	MRT	1.000
MYS	MLI	PHL	CYP	1.000	MRT	MYS	HND	SVN	1.000	TGO	ARG	VEN	HND	1.000
MNG	GIN	COM	VUT	0.999	ARE	CYP	AGO	LBN	0.999	ARE	SAU	COM	MYS	0.995
CUB	SVN	MNE	SUR	1.000	VUT	COM	GUY	CUB	0.997	LBN	AGO	COD	PHL	1.000
TGO	AGO	MMR	UKR	0.982	PHL	SUR	MMR	UKR	0.992	GUY	SUR	MMR	CUB	0.999
TTO	LBY	GNB		0.880	IDN	GNB	LBY		0.998	UKR	IDN	GNB		0.992
IDN	PNG	GNQ		0.501	TTO	PNG	GNQ		0.337	PNG	TTO	GNQ		0.414

## Idiosyncratic Temperature continued

Pseudo-Panel Group				p-value	Pseudo-Panel Group				p-value
Horizon 6					Horizon 7				
GAB	SLB	KGZ	TJK	0.976	SLB	GAB	CMR	KGZ	0.862
CMR	KWT	ZWE	TKM	0.926	TJK	KWT	TKM	ZWE	0.976
CIV	ARM	KAZ	AZE	0.998	ARM	KAZ	CIV	CPV	0.975
KHM	GEO	OMN	BOL	0.999	AZE	BOL	CHN	OMN	1.000
ETH	IRQ	IRN	CPV	1.000	GEO	KHM	ALB	BLZ	0.998
ZMB	BRA	CHN	PRT	0.996	BRA	ZMB	SWZ	PRT	0.991
SWZ	BLZ	ALB	CAF	0.998	IRN	YEM	PRI	ETH	1.000
PSE	NPL	NGA	PRI	0.999	MDG	NGA	NPL	LVA	0.999
LTU	MWI	SLE	MOZ	1.000	MWI	DOM	NER	PSE	1.000
LVA	JAM	EGY	DOM	1.000	GMB	LTU	BWA	EGY	1.000
BWA	PAN	URY	YEM	0.999	JAM	ESP	PAN	BHS	1.000
ESP	LBY	BHS	GMB	1.000	UZB	JOR	VCT	CHL	0.998
NER	BTN	WSM	MDG	1.000	WSM	SLV	URY	KEN	1.000
UZB	BLR	CHL	GRL	1.000	GRC	MOZ	SLE	GRL	1.000
GRC	MDA	KEN	SLV	1.000	BLR	PAK	CAF	TUR	1.000
TUR	NOR	ISR	KOR	1.000	ISR	THA	BTN	NOR	1.000
JOR	PAK	ROU	JPN	1.000	HRV	POL	SEN	ROU	1.000
POL	MLI	SEN	THA	1.000	VNM	MLI	IRQ	DEU	0.999
AUT	FRA	HRV	VCT	1.000	KOR	FRA	MAR	MNG	1.000
DEU	VNM	CAN	DNK	1.000	MDA	AUT	JPN	CAN	1.000
ZAF	MAR	BGR	BEL	1.000	BIH	DNK	IND	CZE	1.000
UGA	USA	NIC	CZE	1.000	USA	SWE	TUN	RUS	1.000
ISL	BIH	SWE	TUN	1.000	NIC	BEL	NAM	ISL	1.000
BFA	NLD	HUN	IND	1.000	ZAF	NLD	FIN	CHE	1.000
MNG	CHE	RUS	NZL	1.000	MNE	HUN	EST	GIN	0.998
FIN	EST	GBR	PRY	0.999	LSO	NZL	CRI	BGD	1.000
GHA	GIN	BRN	MNE	1.000	PRY	SVK	BFA	GBR	1.000
NAM	BGD	CRI	ITA	1.000	MEX	GHA	UGA	BGR	1.000
LSO	COL	LUX	MEX	1.000	AUS	LKA	VUT	LUX	1.000
SVK	MKD	LKA	TZA	1.000	ITA	MKD	SRB	SVN	0.999
SRB	TCD	AUS	DZA	0.998	TGO	BRN	COL	IRL	1.000
SVN	VUT	IRL	FJI	1.000	DZA	BEN	TZA	SDN	0.999
BEN	GTM	LAO	MRT	1.000	LAO	LBY	GTM	TCD	1.000
BDI	SDN	HTI	PER	0.999	BDI	MRT	HND	ARG	0.999
HND	ECU	CYP	ARG	1.000	CYP	ECU	PER	FJI	0.999
COG	TGO	RWA	COM	1.000	HTI	COM	COG	RWA	1.000
ARE	PHL	LBN	SAU	1.000	LBN	PHL	SAU	MYS	0.994
MYS	VEN	SUR	GUY	0.997	ARE	VEN	SUR	IDN	0.998
MMR	CUB	UKR	PNG	0.998	GUY	UKR	CUB	PNG	0.999
GNB	IDN	COD		0.967	MMR	GNB	TTO		0.944
AGO	TTO	GNQ		0.644	COD	AGO	GNQ		0.754

# E Global and Idiosyncratic Temperature Local Projection and Pseudo Panel Local Projection Results

Figure E1: Global Temperature Local-Projection Impulse Responses



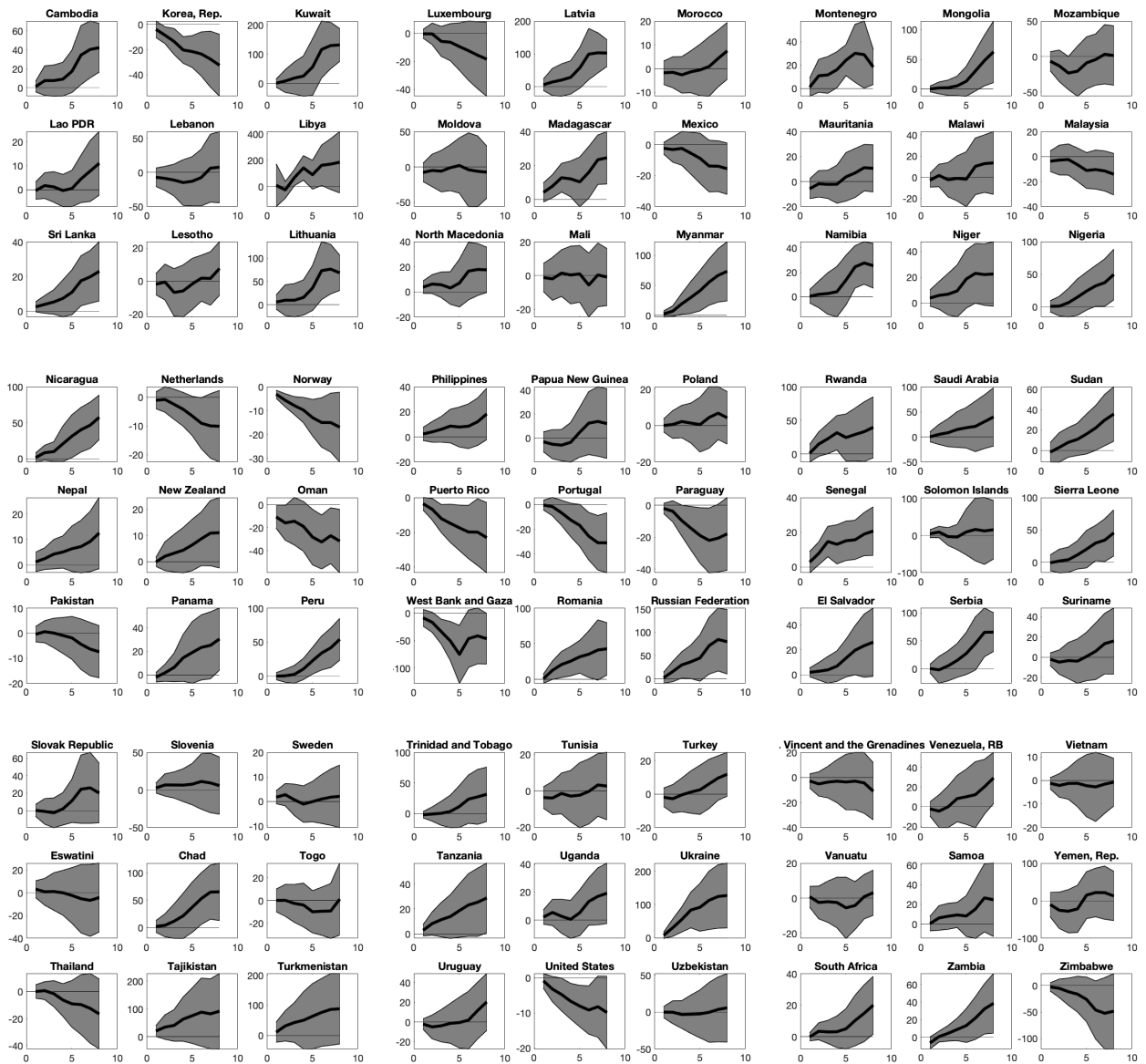
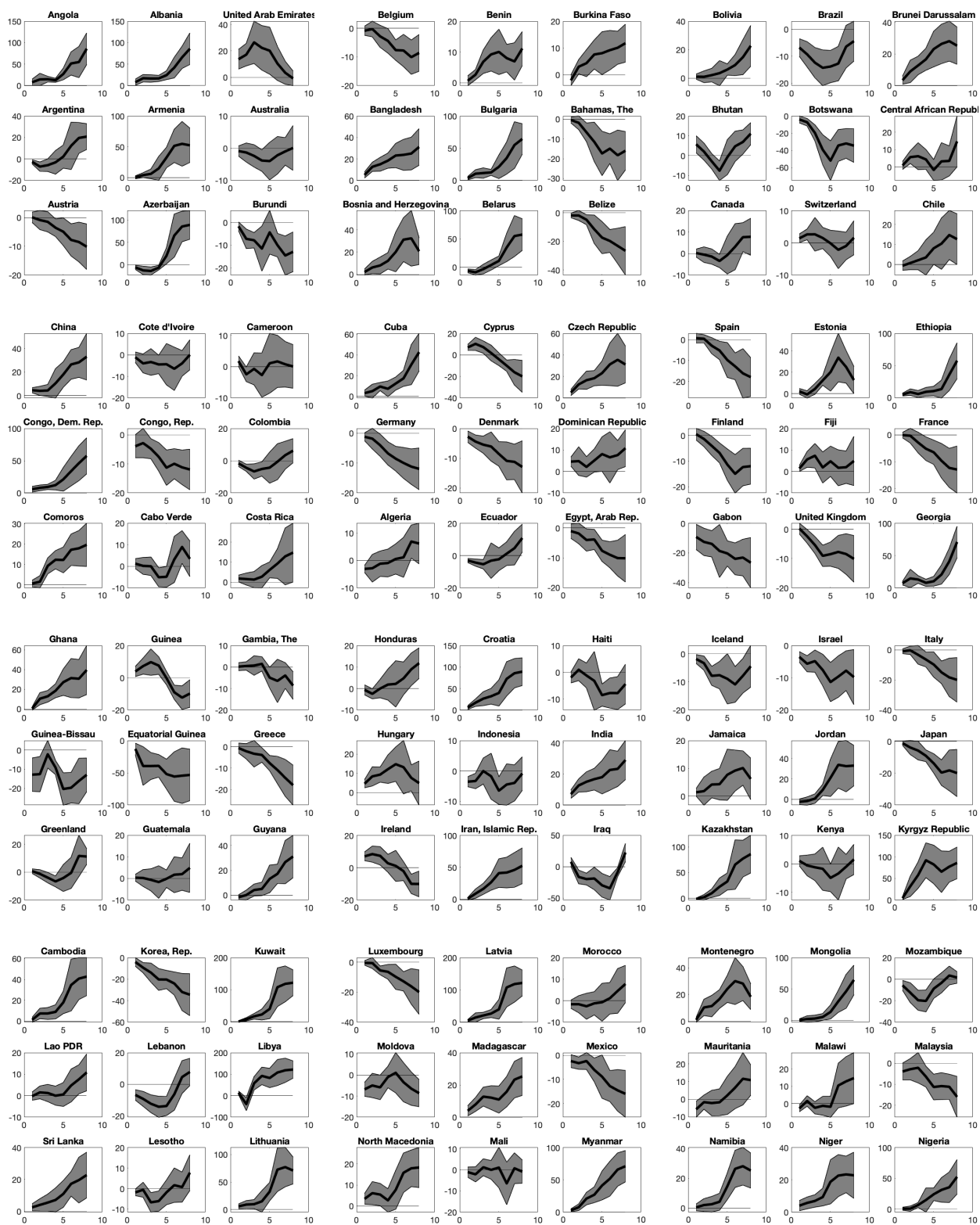


Figure E2: Global Temperature Pseudo-Panel Impulse Responses





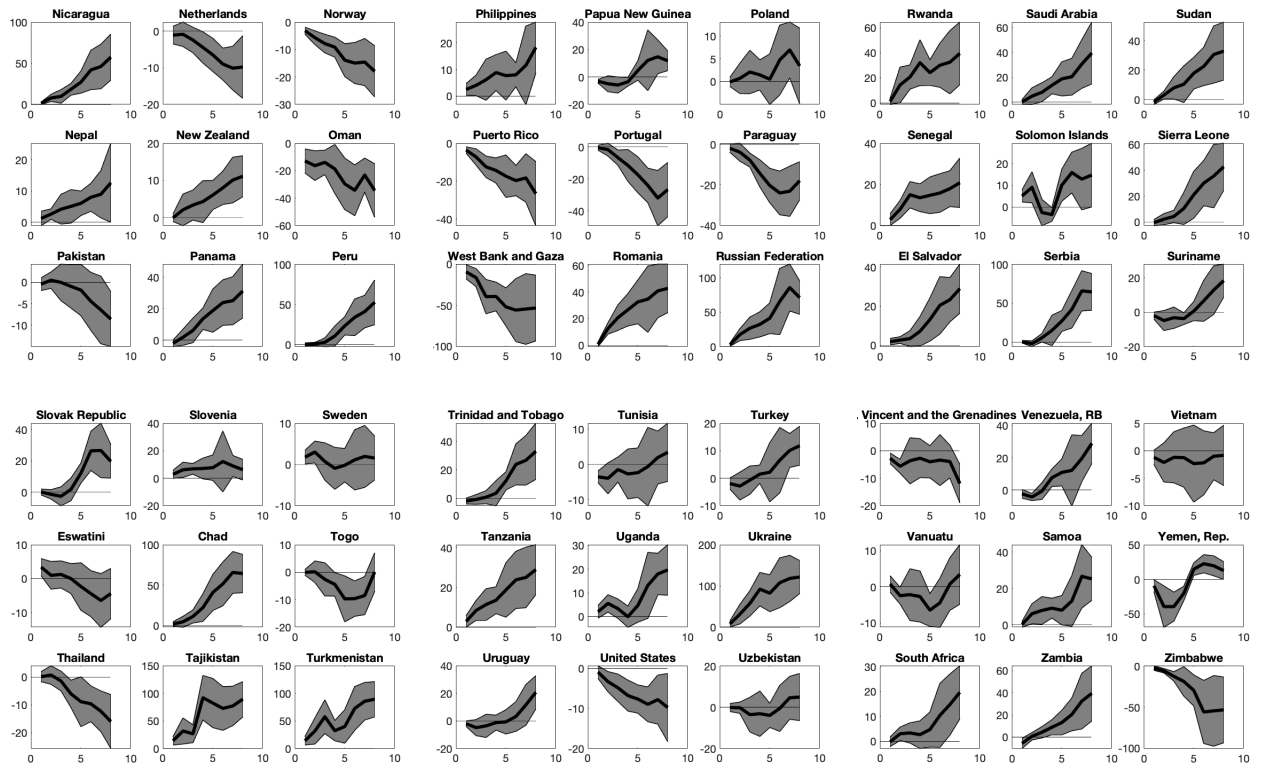
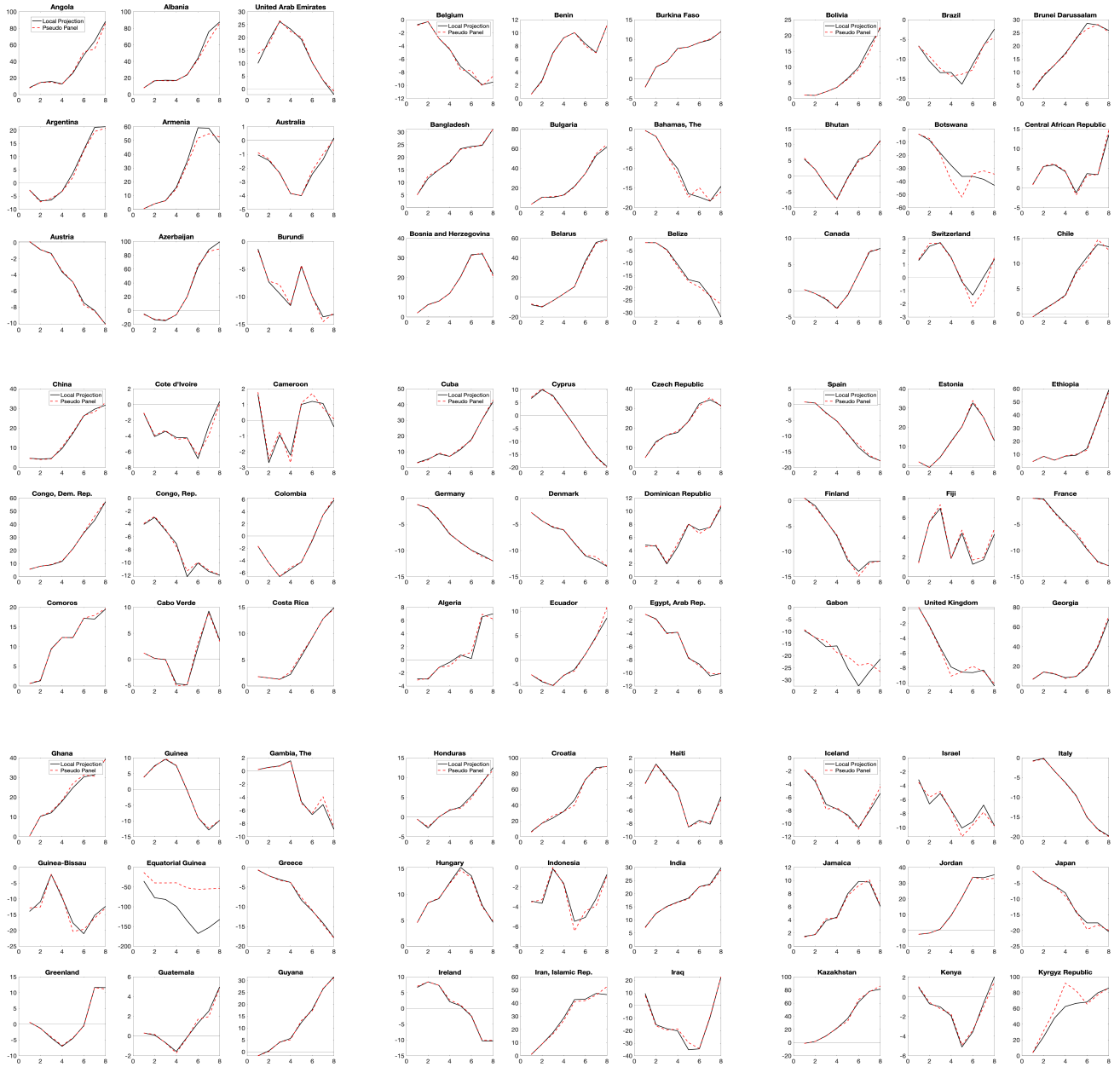


Figure E3: Global Temperature Local-Projection and Pseudo Panel Impulse Responses



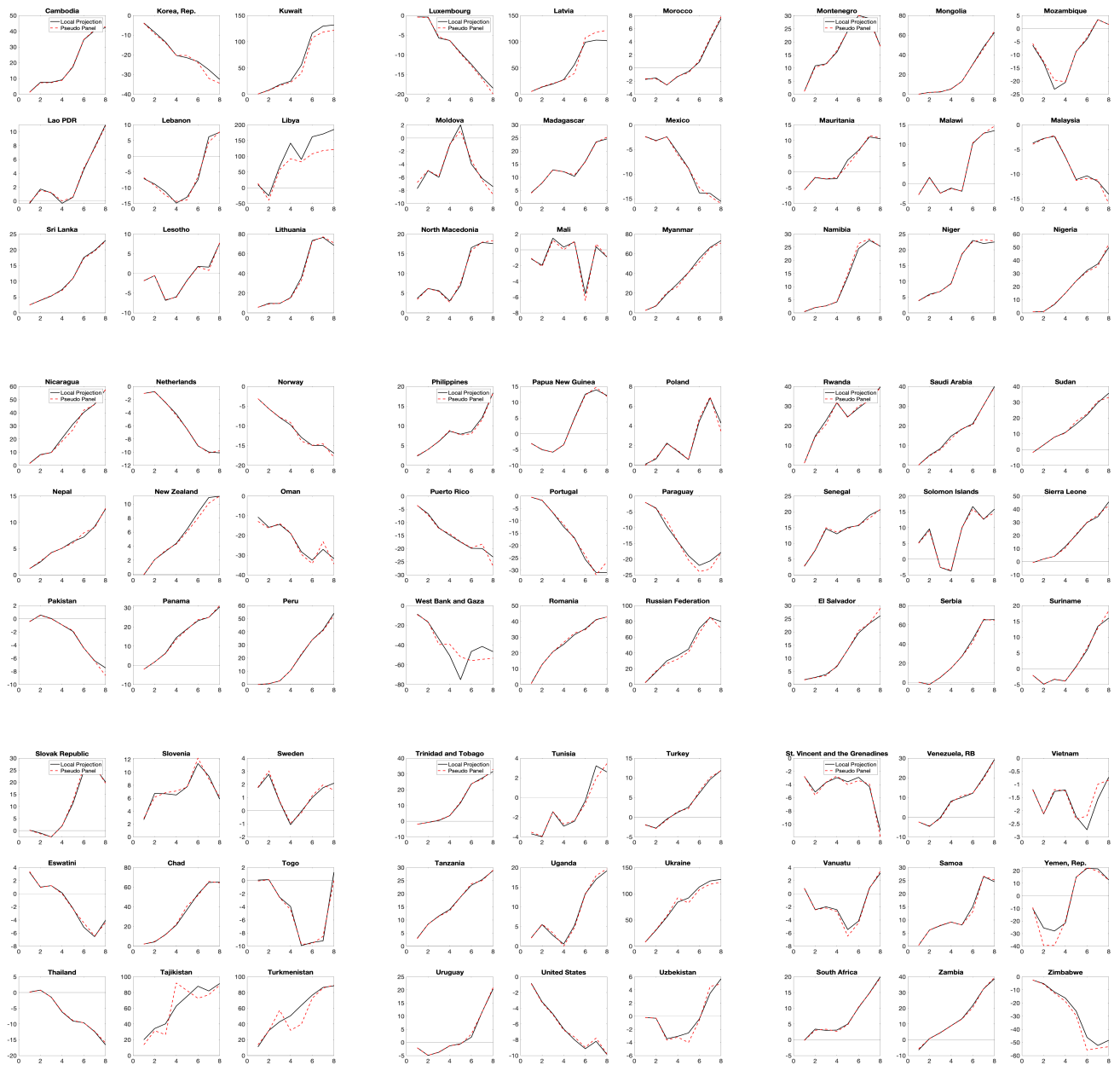
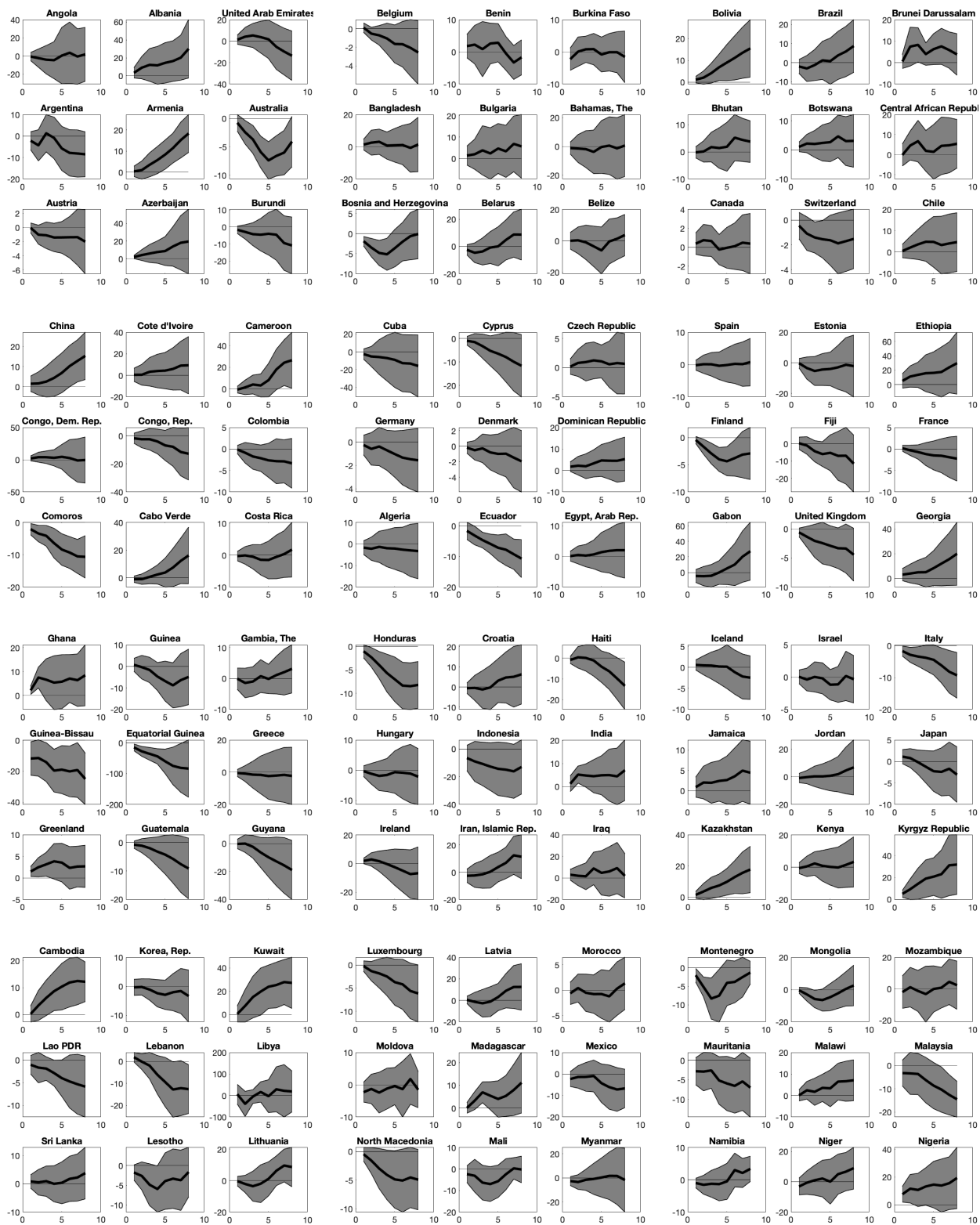


Figure E4: Idiosyncratic Temperature Local-Projection Impulse Responses



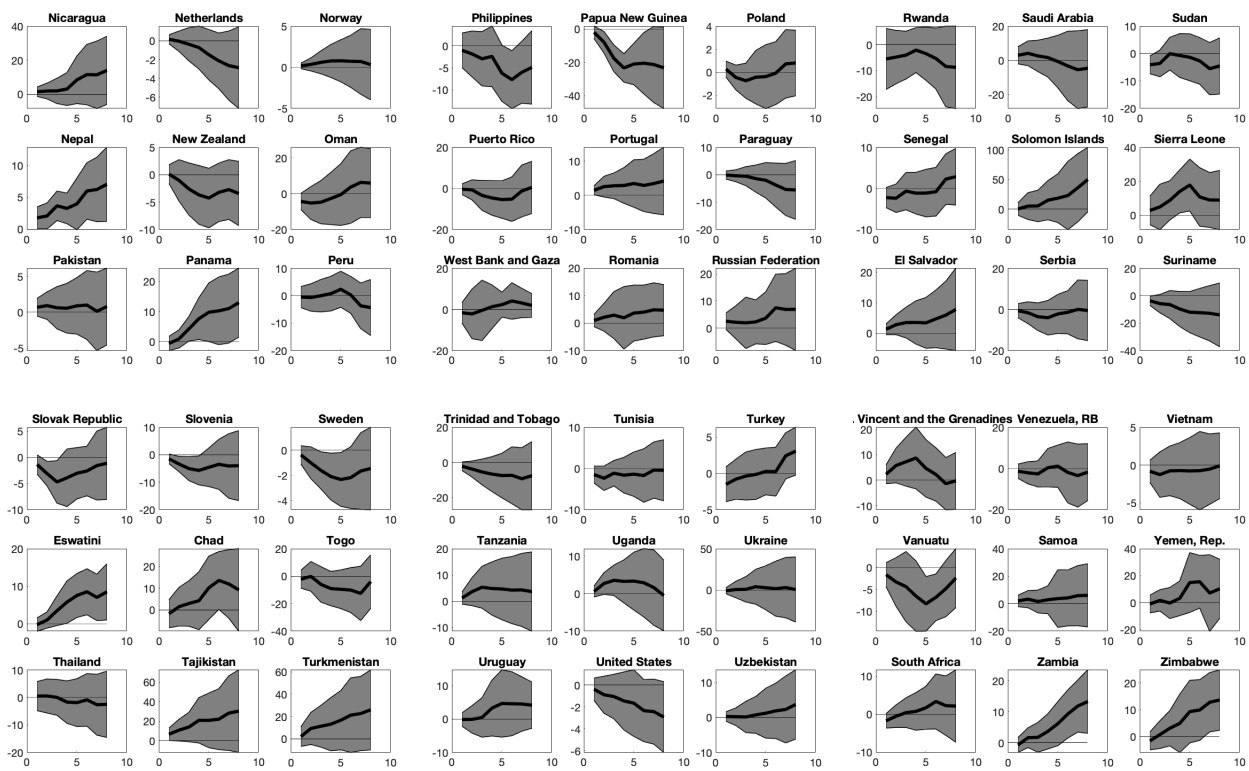
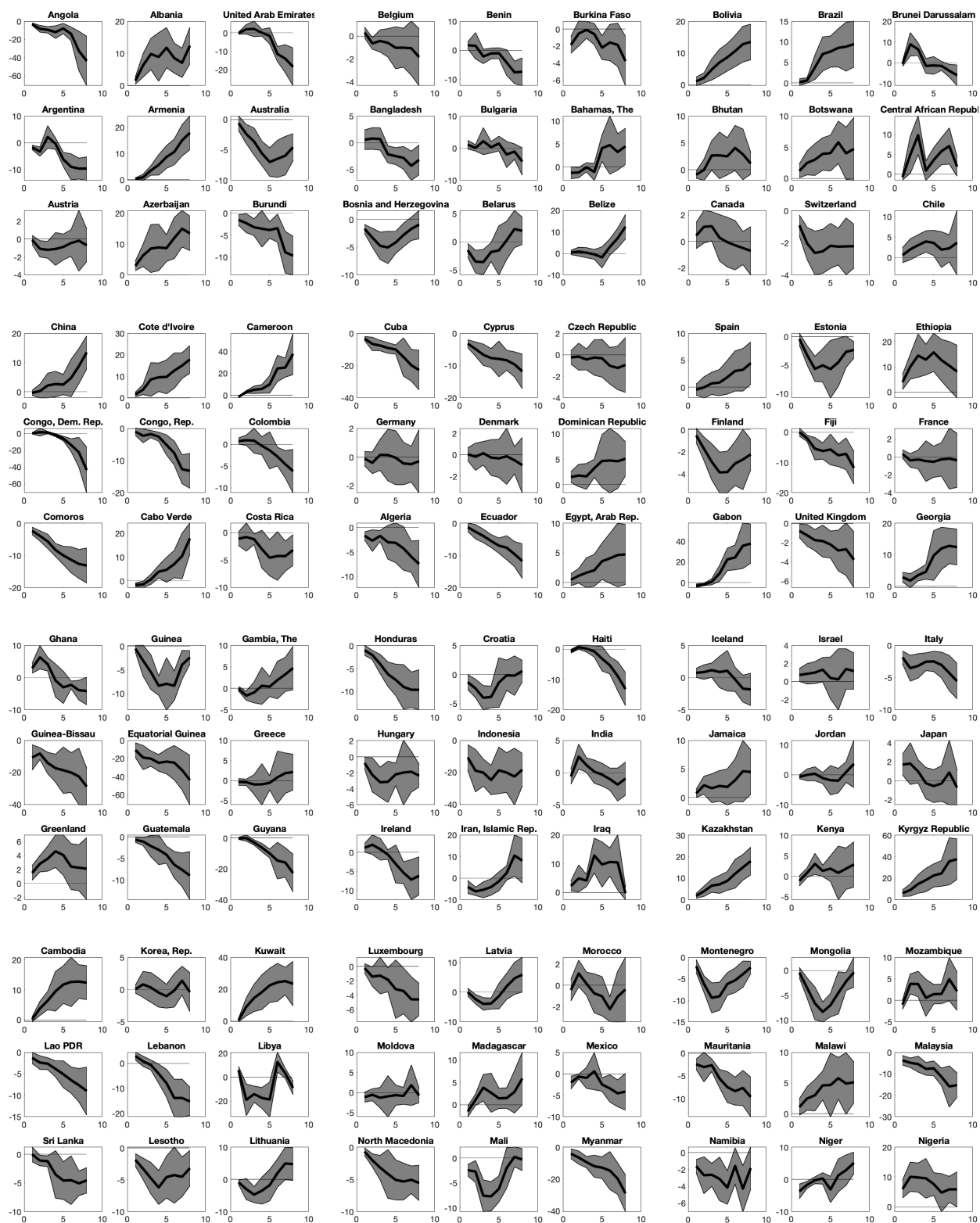


Figure E5: Idiosyncratic Temperature Pseudo-Panel Impulse Responses



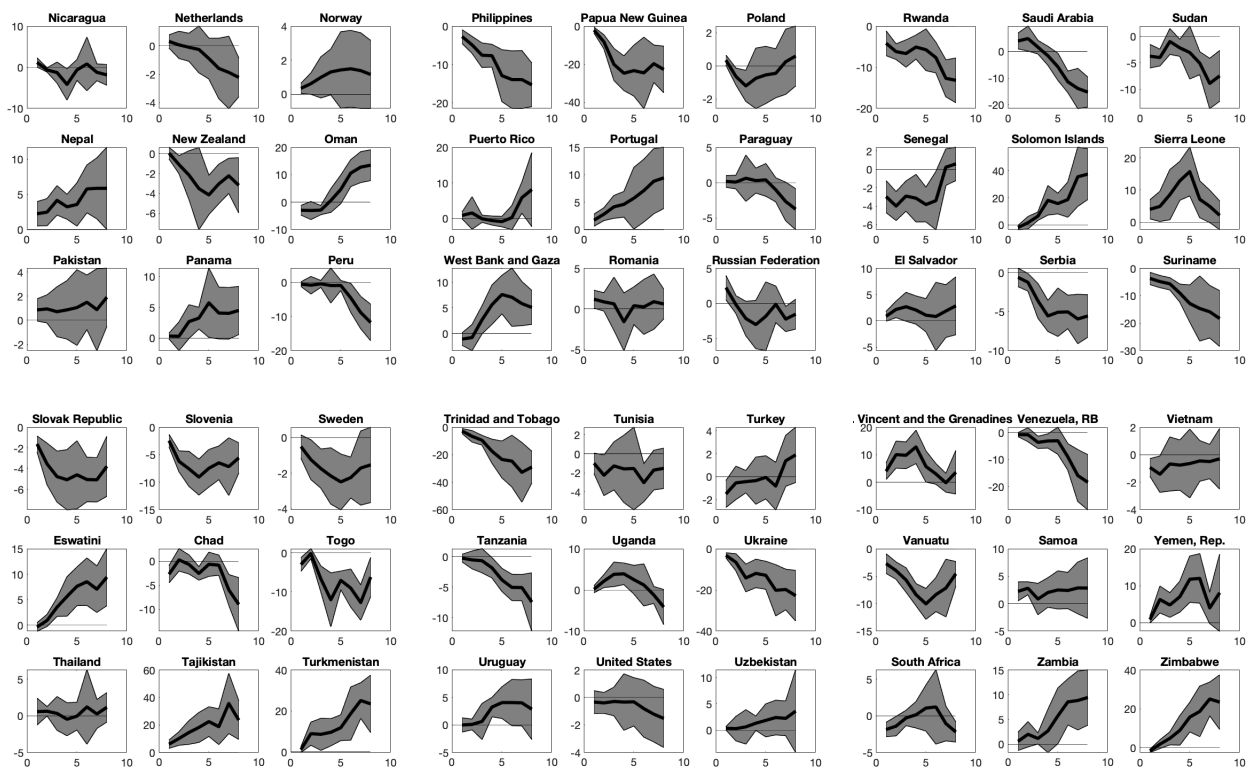
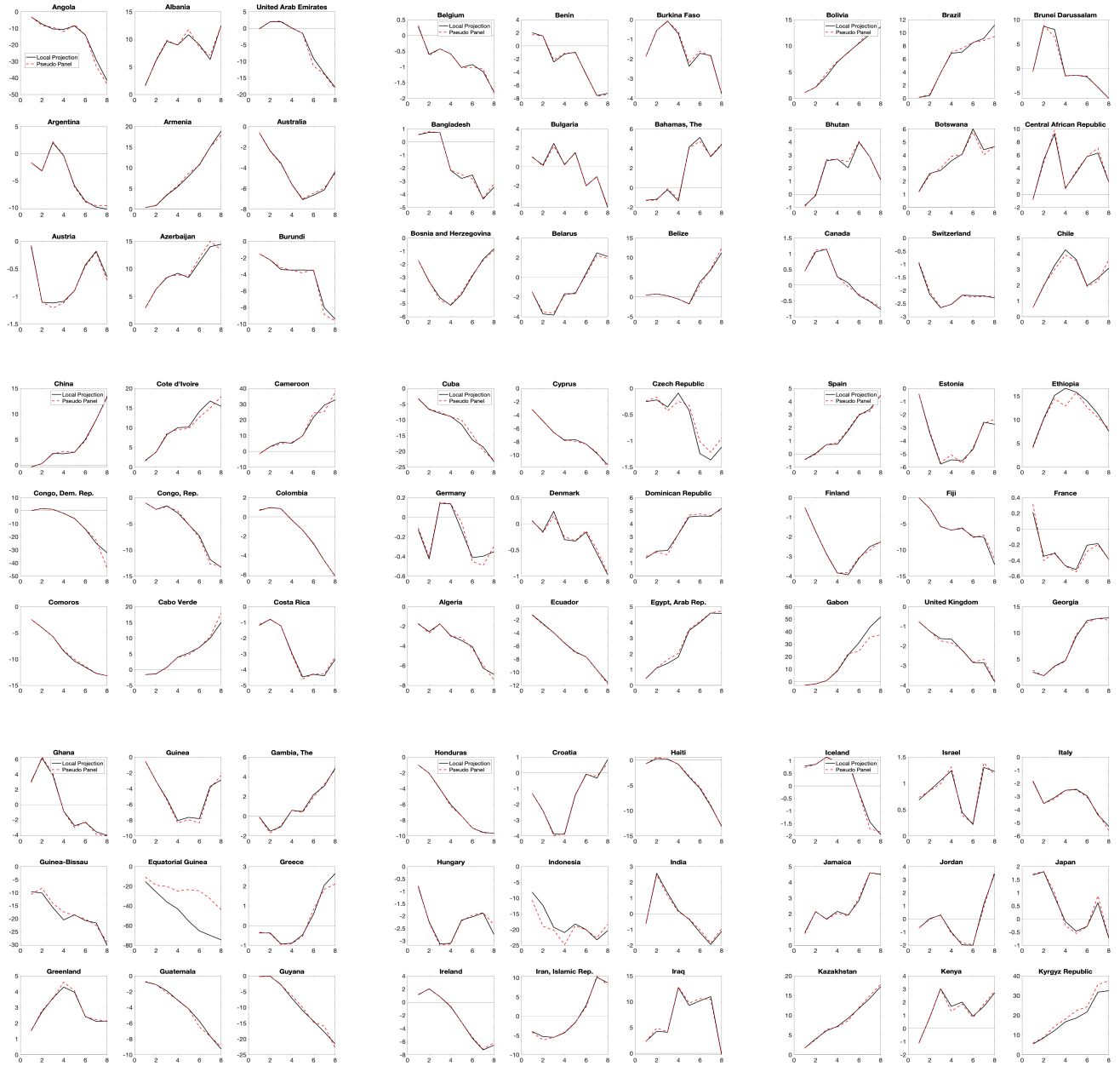
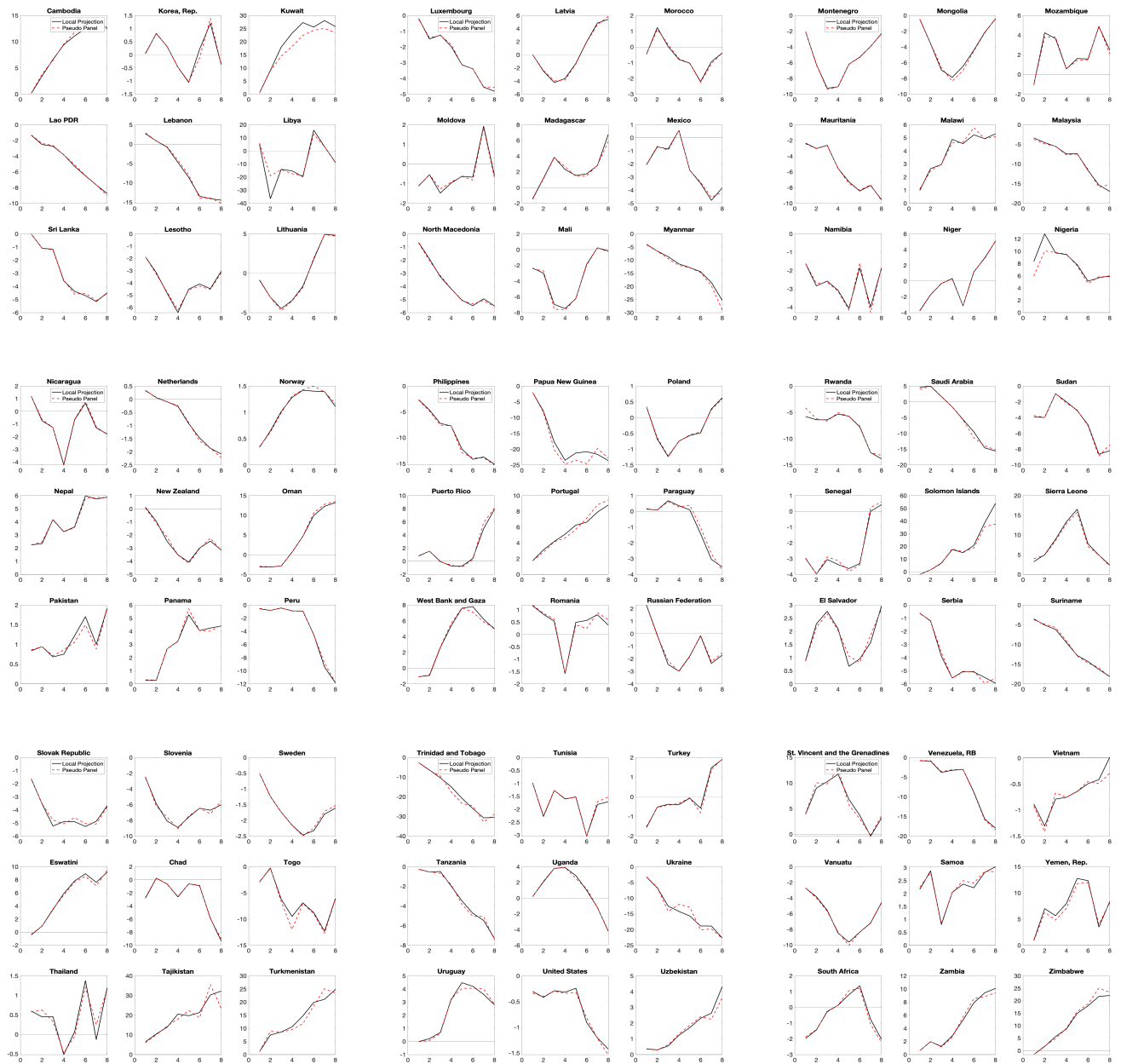


Figure E6: Idiosyncratic Temperature Local-Projection and Pseudo Panel Impulse Responses







## F Robustness

Table F1: First Principal Component Summary

Horizon	Local-Projection Beta								Pseudo-Panel Local-Projection Beta							
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
# neg	62	48	54	62	62	61	62	57	58	50	54	66	62	66	62	58
# pos	100	114	108	100	100	101	100	105	104	112	108	96	100	96	100	104
# sig neg	2	3	4	4	7	8	7	6	15	14	18	26	26	30	46	34
# sig pos	6	13	10	11	12	19	16	23	48	80	72	56	64	72	68	80

Notes: This table shows the count of global temperature (first principal component of quadratically detrended country temperature) local-projection (estimates from equation (6)) and pseudo-panel local-projection (estimates from equation (7)) betas that are negative (neg), positive (pos), and statistically significant at the 5 percent level (sig neg and sig pos).

Table F2: Pseudo Panel Country Linear and Cubic Detrending Summary

Horizon	Linear								Cubic							
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
# neg	98	86	86	86	82	82	78	78	98	90	94	94	90	86	74	74
# pos	64	76	76	76	80	80	84	84	64	72	68	68	72	76	88	88
# sig neg	58	66	62	62	66	70	51	63	46	58	46	50	50	51	46	50
# sig pos	40	44	48	52	48	60	56	60	32	36	36	32	32	40	40	40

Notes: This table shows the count of country temperature (linearly/cubically detrended) pseudo-panel local-projection (estimates from equation (7)) betas that are negative (neg), positive (pos), and statistically significant at the 5 percent level (sig neg and sig pos).

Table F3: Pseudo Panel Global Linear and Cubic Detrending Summary

Horizon	Linear								Cubic							
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
# neg	82	86	86	86	78	70	66	66	86	74	78	82	74	74	62	58
# pos	80	76	76	76	84	92	96	96	76	88	84	80	88	88	100	104
# sig neg	46	54	50	58	50	50	50	54	50	42	34	38	34	38	30	30
# sig pos	40	52	56	60	56	64	72	76	44	48	48	48	44	52	60	68

Notes: This table shows the count of global temperature (linearly/cubically detrended) pseudo-panel local-projection (estimates from equation (7)) betas that are negative (neg), positive (pos), and statistically significant at the 5 percent level (sig neg and sig pos).

Table F4: Pseudo Panel Idiosyncratic Linear and Cubic Detrending Summary

Horizon	Linear								Cubic							
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
# neg	94	90	82	98	94	90	86	90	102	94	90	102	102	102	98	98
# pos	68	72	80	64	68	72	76	72	60	68	72	60	60	60	64	64
# sig neg	54	62	54	54	58	54	62	62	58	62	62	62	70	54	62	58
# sig pos	32	40	40	40	28	36	36	36	32	32	32	32	40	40	40	32

Notes: This table shows the count of idiosyncratic temperature (linearly/cubically detrended) pseudo-panel local-projection (estimates from equation (7)) betas that are negative (neg), positive (pos), and statistically significant at the 5 percent level (sig neg and sig pos).

Table F5: Pseudo Panel Country 1990 Population Weights and First-Difference Country Summary

Horizon	1990 Weights								First-Differenced							
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
# neg	98	90	86	86	82	78	74	74	90	82	82	94	98	90	90	86
# pos	64	72	76	76	80	84	88	88	72	80	80	68	64	72	72	76
# sig neg	54	54	54	46	54	42	51	46	58	42	42	38	34	38	23	26
# sig pos	36	40	40	36	40	44	44	44	48	28	32	20	24	24	12	16

Notes: This table shows the count of country temperature (1990 populations weights or first differenced) pseudo-panel local-projection (estimates from equation (7)) betas that are negative (neg), positive (pos), and statistically significant at the 5 percent level (sig neg and sig pos).

Table F6: Pseudo Panel Country 1990 Population Weights and First-Difference Global Summary

Horizon	1990 Weights								First-Differenced							
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
# neg	74	74	74	74	66	62	54	50	74	74	74	74	66	62	54	50
# pos	88	88	88	88	96	100	108	112	88	88	88	88	96	100	108	112
# sig neg	38	34	38	50	42	38	38	42	38	34	38	50	42	38	38	42
# sig pos	40	56	52	48	68	68	88	88	40	56	52	48	68	68	88	88

Notes: This table shows the count of global temperature (1990 populations weights or first differenced) pseudo-panel local-projection (estimates from equation (7)) betas that are negative (neg), positive (pos), and statistically significant at the 5 percent level (sig neg and sig pos).

Table F7: Pseudo Panel Country 1990 Population Weights and First-Difference Idiosyncratic Summary

Horizon	1990 Weights								First-Differenced							
	0	1	2	3	4	5	6	7	0	1	2	3	4	5	6	7
# neg	98	86	86	98	102	94	90	90	90	86	82	90	90	82	86	86
# pos	64	76	76	64	60	68	72	72	72	76	80	72	72	80	76	76
# sig neg	66	62	58	54	58	58	62	58	50	46	38	38	30	38	26	30
# sig pos	24	32	44	36	40	28	32	36	44	28	24	24	20	20	12	12

Notes: This table shows the count of idiosyncratic temperature (1990 populations weights or first differenced) pseudo-panel local-projection (estimates from equation (7)) betas that are negative (neg), positive (pos), and statistically significant at the 5 percent level (sig neg and sig pos).

## G Coupled Model Intercomparison Project Phase 6 (CMIP6)

The CMIP 6 data is the average of 25 surface temperature projections by location. The data is monthly, which we aggregate to annual averages. The scenarios are the SSP1-2.6 and the SSP5-8.5. The data was downloaded at

<https://cds.climate.copernicus.eu/cdsapp#!/dataset/projections-cmip6?tab=overview>

on 04/22/2021.

Table G1 shows the individual CMIP 6 models and their reference. Each model was used for the two different climate scenarios.

Table G1: CMIP 6 Models

	Model	Citation
1	AWI-CM 1.1 MR	<a href="#">Semmler et al. (2018)</a>
2	BCC-CSM2-MR	<a href="#">Wu et al. (2018)</a>
3	CAMS-CSM1-0	<a href="#">Rong (2019)</a>
4	CanESM5	<a href="#">Swart et al. (2019b)</a>
5	CanESM5-CanOE	<a href="#">Swart et al. (2019a)</a>
6	CIESM	<a href="#">Huang (2019)</a>
7	CMCC-CM2-SR5	<a href="#">Fogli et al. (2020)</a>
8	CNRM-CM6-1	<a href="#">Voldoire (2018)</a>
9	CNRM-CM6-1-HR	<a href="#">Voldoire (2019)</a>
10	CNRM-ESM2-1	<a href="#">Seferian (2018)</a>
11	FGOALS-g3	<a href="#">Li (2019)</a>
12	HadGEM3-GC31-LL	<a href="#">Roberts (2017a)</a>
13	HadGEM3-GC31-MM	<a href="#">Roberts (2017b)</a>
14	IITM-ESM	<a href="#">Raghavan and Panickal (2019)</a>
15	INM-CM4-8	<a href="#">Volodin et al. (2019a)</a>
16	INM-CM5-0	<a href="#">Volodin et al. (2019b)</a>
17	KACE-1-0-G	<a href="#">Byun et al. (2019)</a>
18	MIROC6	<a href="#">Shiogama et al. (2019)</a>
19	MIROC-ES2L	<a href="#">Tachiiri et al. (2019)</a>
20	MPI-ESM1-2-LR	<a href="#">Wieners et al. (2019)</a>
21	MRI-ESM2-0	<a href="#">Yukimoto et al. (2019)</a>
22	NESM3	<a href="#">Cao and Wang (2019)</a>
23	NorESM2-LM	<a href="#">Seland et al. (2019)</a>
24	NorESM2-MM	<a href="#">Bentsen et al. (2019)</a>
25	UKESM1-0-LL	<a href="#">Good et al. (2019)</a>