Supplementary Appendix

to the paper

News Shocks in Open Economies: Evidence from Giant Oil Discoveries

January 5, 2015

1. **Alternative measures of Net Present Value of Giant Oil Discoveries**

   Figure C.I presents impulse responses of key macro variables to giant oil discovery shocks using two alternative measures of net present value of giant oil discoveries.

2. **Sensitivity to groups of countries**

   Figure C.II presents the impulse responses of key macro variables to a giant oil discovery shock for the sample excluding Middle Eastern and North African countries or countries without giant oil discoveries.

3. **Selected giant oil discoveries**

   Figure C.III presents the impulse responses of key macro variables to a giant oil discovery shocks for non-sequential discoveries or discoveries not preceded by other discoveries in the past three years.

4. **Controlling for exploration efforts**

   Figure C.IV presents the impulse responses of key macro variables to giant oil discovery shocks controlling for exploration efforts.

5. **Financial constraints and oil production substitution effects**

   Figure C.V presents the impulse responses of key macro variables to giant oil discovery shocks for samples restricted to African countries or without the top ten oil exporters.

6. **Alternative econometric specifications**

   Figure C.VI and Figure C.VII present the results for different specifications of the empirical model.

7. **Real exchange rate response**

   Figure C.VIII presents the impulse responses of the real exchange rate to giant oil discovery shocks, controlling for country-specific quadratic trends.
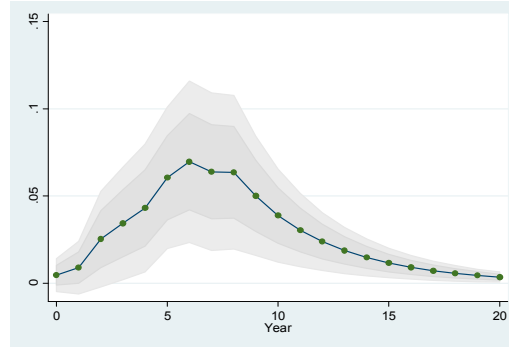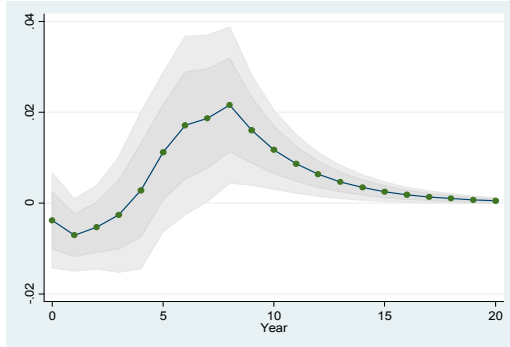
8. Baseline coefficient estimates

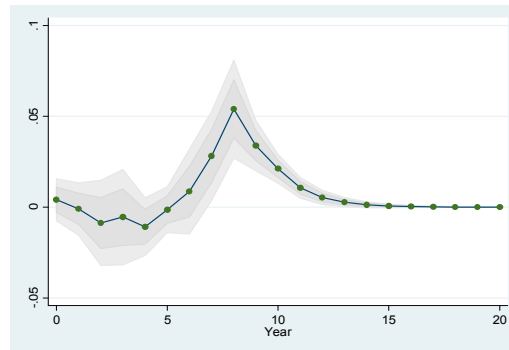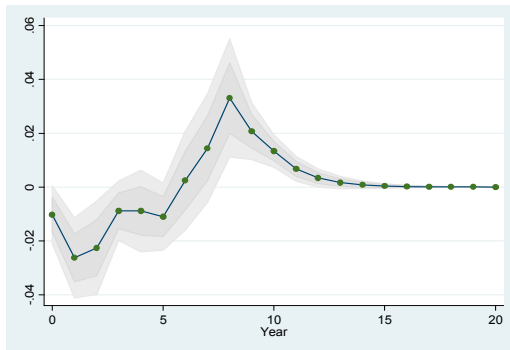## 1. Alternative measures of Net Present Value of Giant Oil Discoveries

(a) NPV with risk adjusted discount rate and uniform production profile

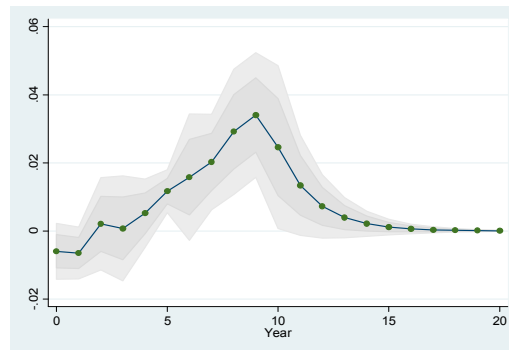(b) NPV with common discount rate and uniform production profile

Log Real GDP
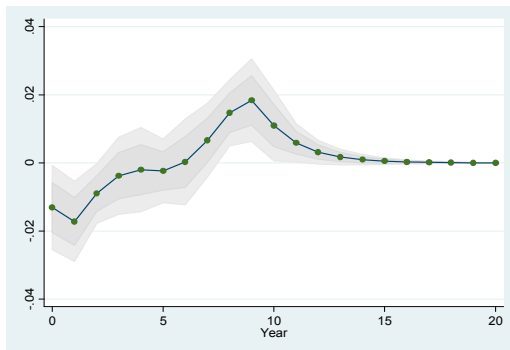

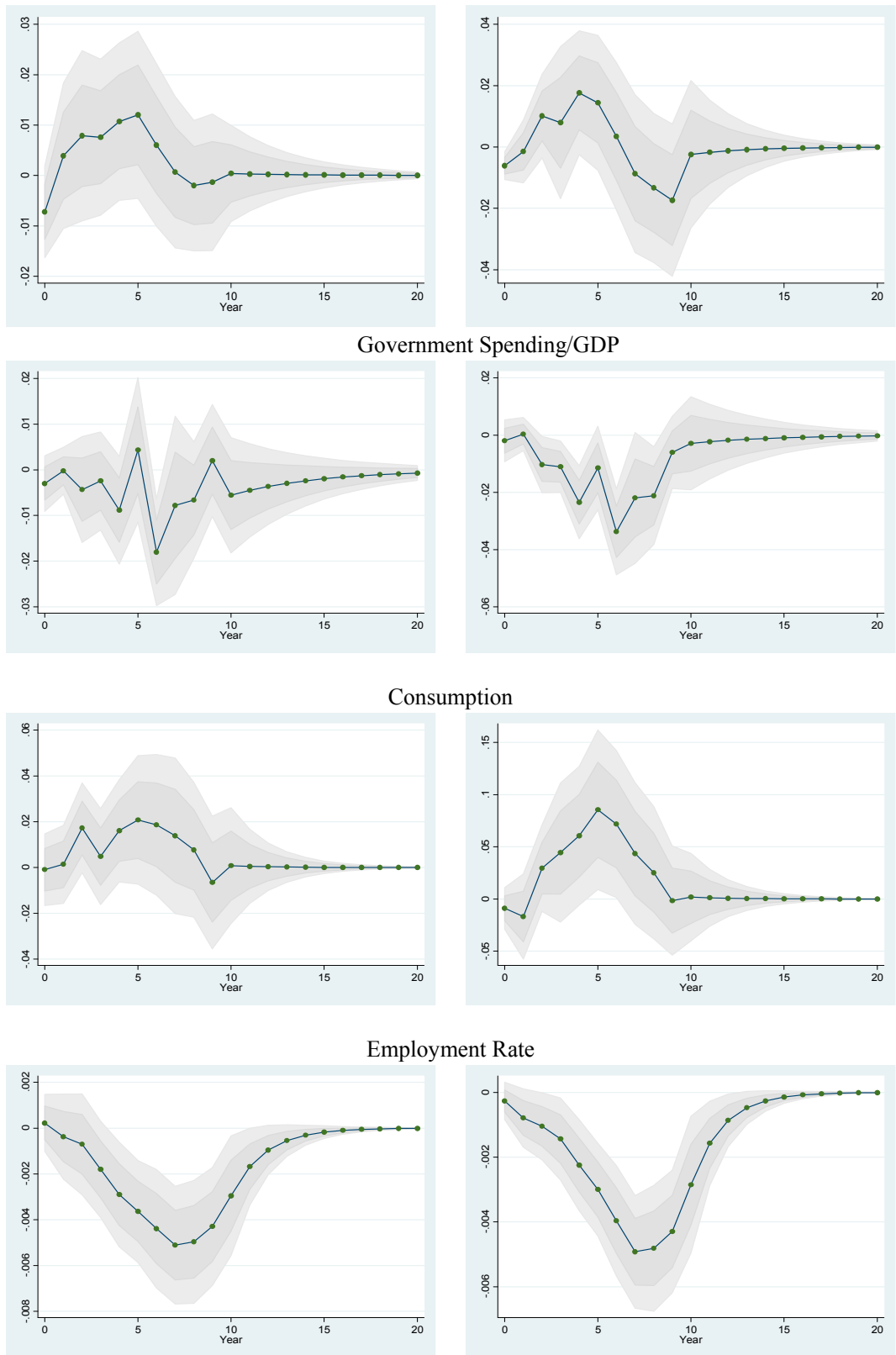
Current Account/GDP

Saving/GDP

Investment/GDP

Government Spending/GDP

Consumption

Employment Rate

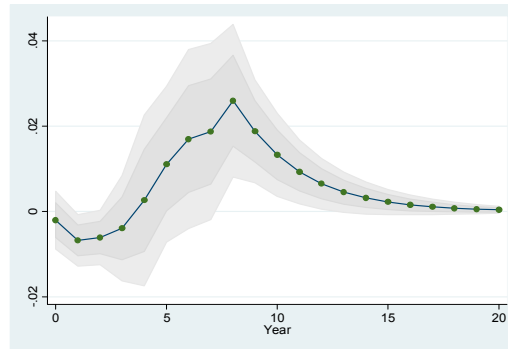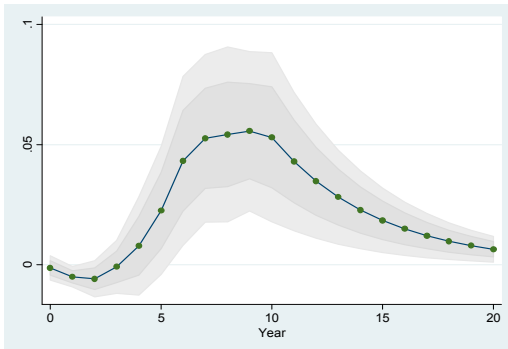Figure C.I: Alternative measures of Net Present Values of Giant Oil Discoveries

Note: The figure presents the impulse responses of key macro variables to a giant oil discovery shock by using alternative measures of net present value of giant oil discoveries. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.
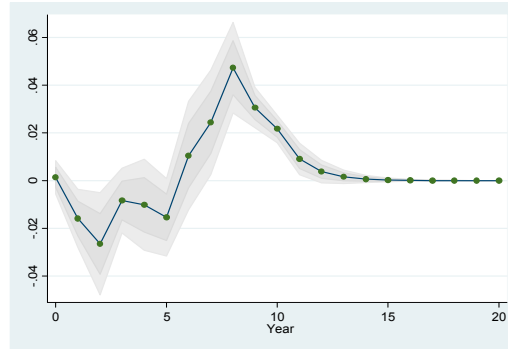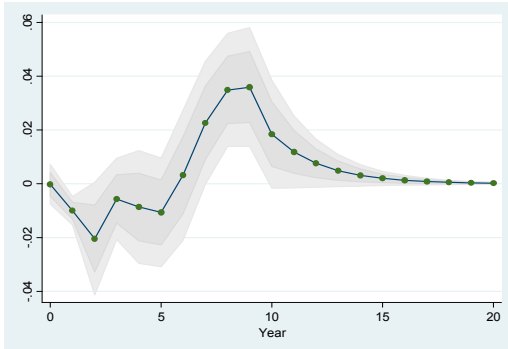
2. Sensitivity to groups of countries

(a) Excluding Middle East and North African countries
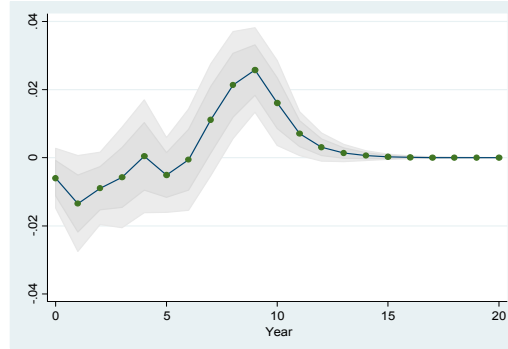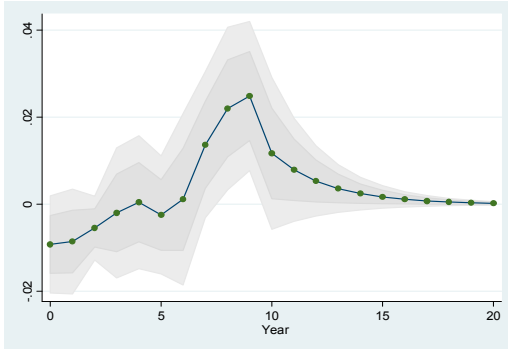
(b) Excluding countries without discoveries

Log Real GDP

Current Account/GDP

Saving/GDP
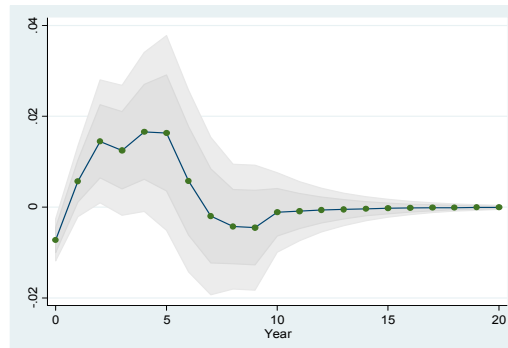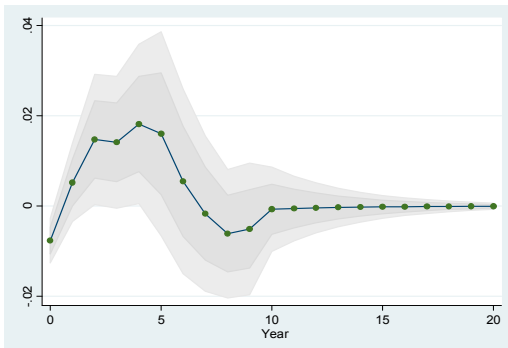

Investment/GDP

Government Spending/GDP
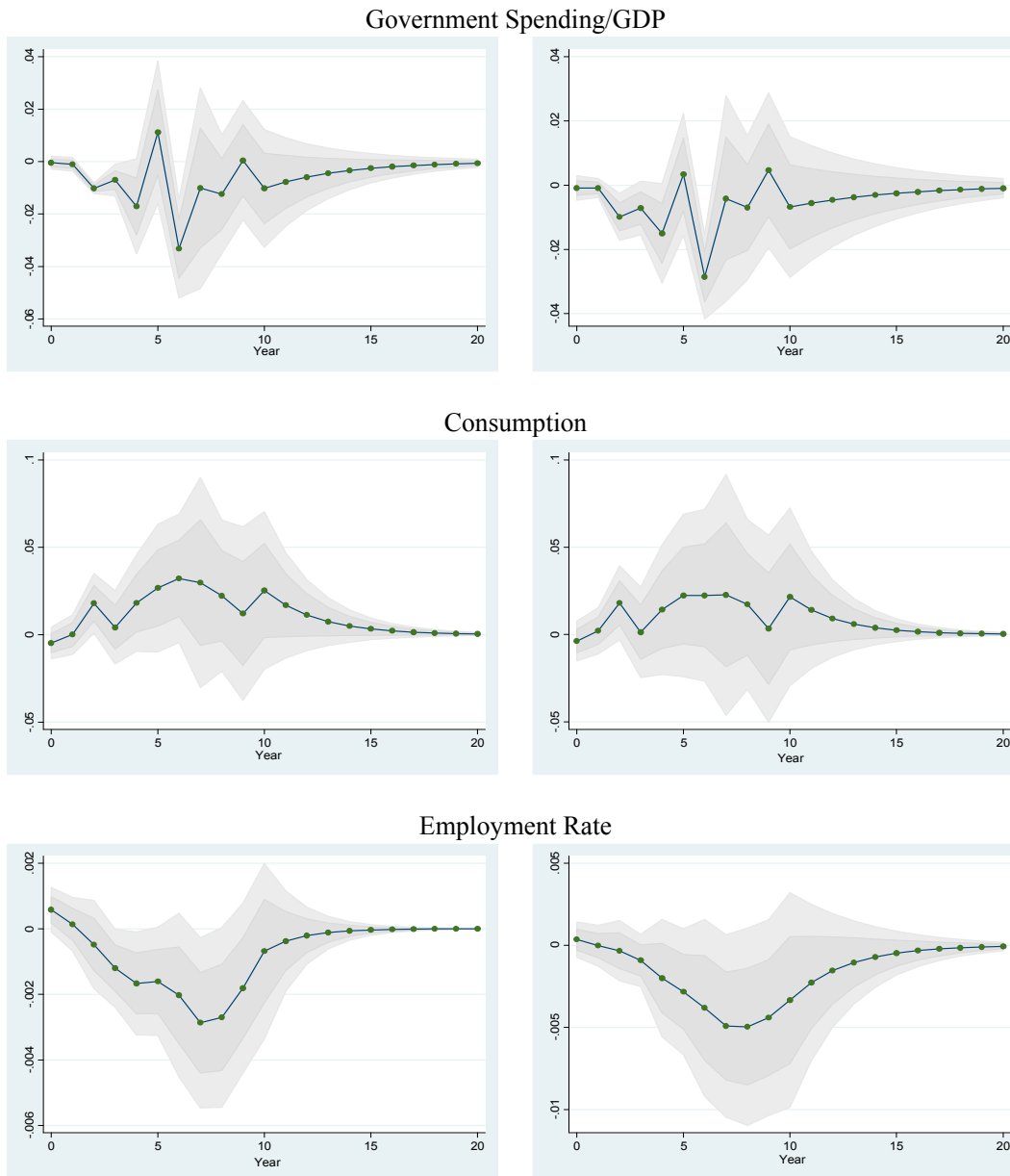

Consumption

Employment Rate

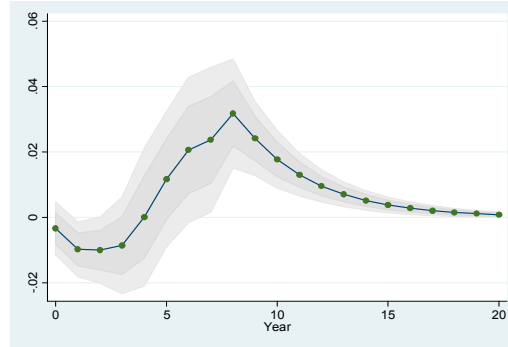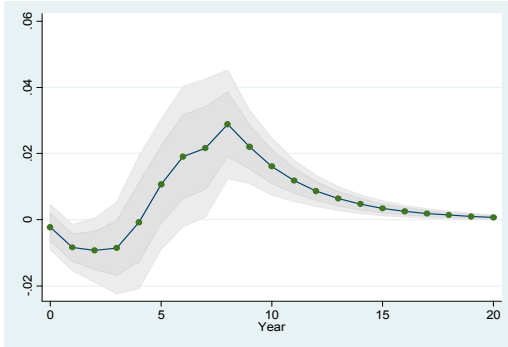Figure C.II: Sensitivity to Groups of Countries

Note: The figure presents the impulse responses of key macro variables to a giant oil discovery shock for selected country groups. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.
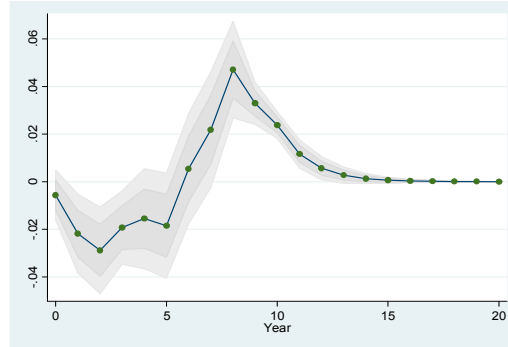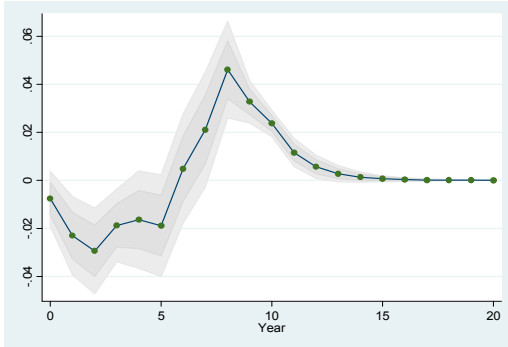
3. Selected giant oil discoveries

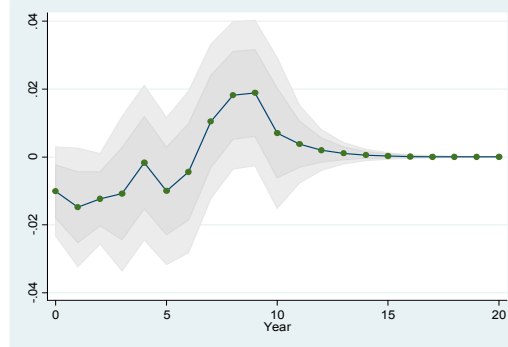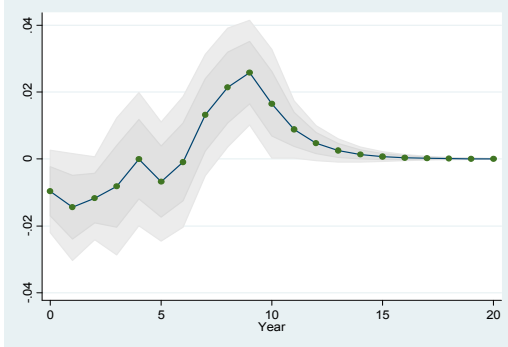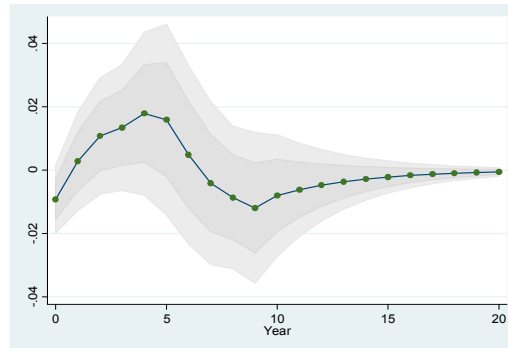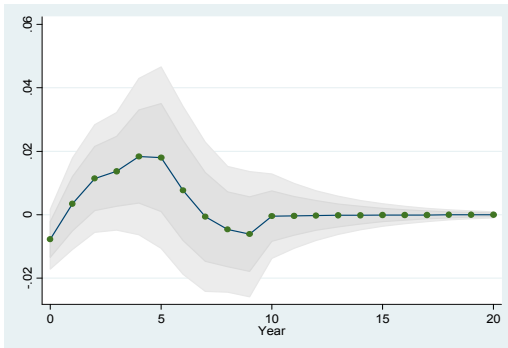(a) Non-sequential discoveries (b) Discoveries with no other in the past three years

Log Real GDP

Current Account/GDP

Saving/GDP

Investment/GDP
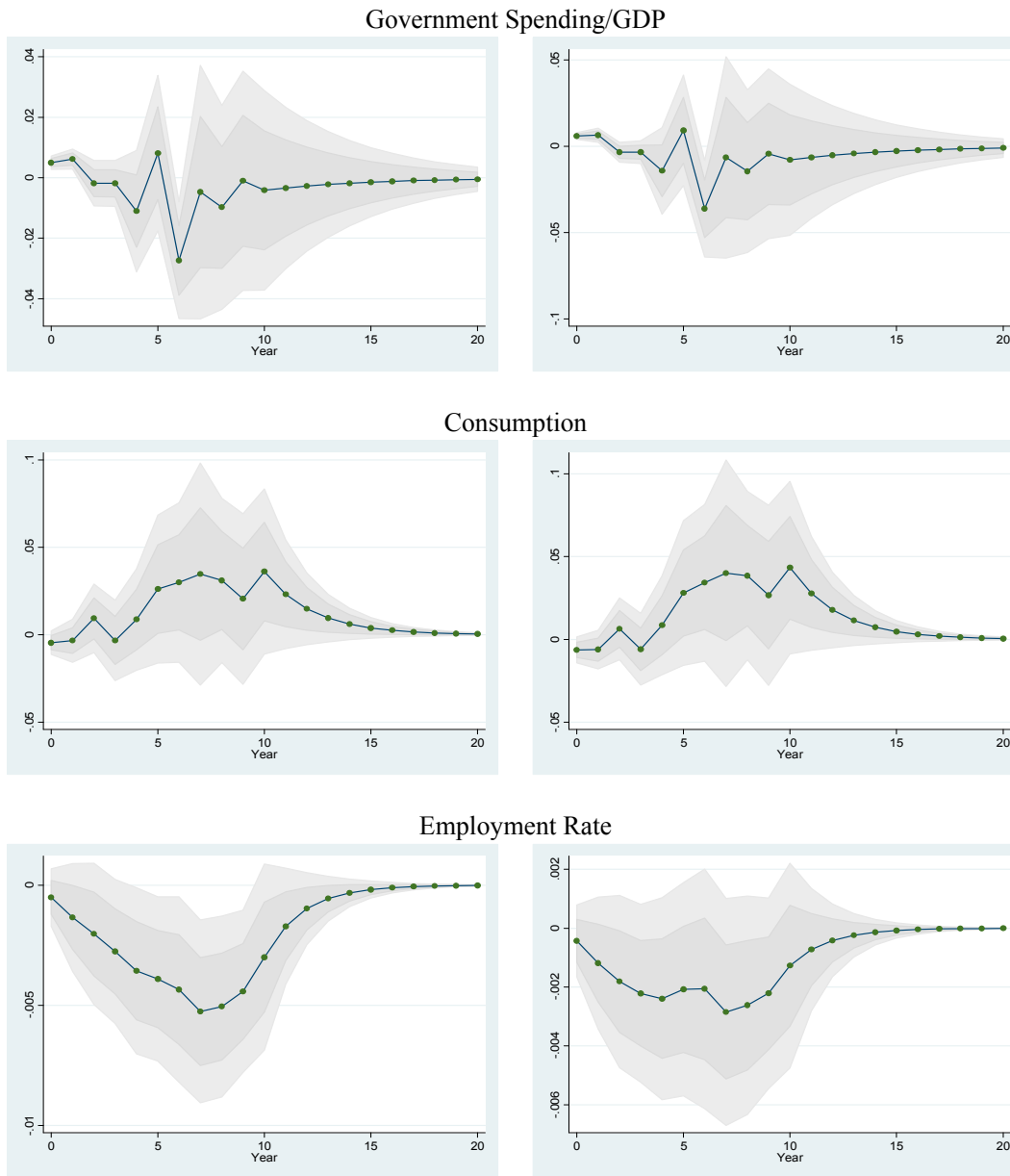
Government Spending/GDP
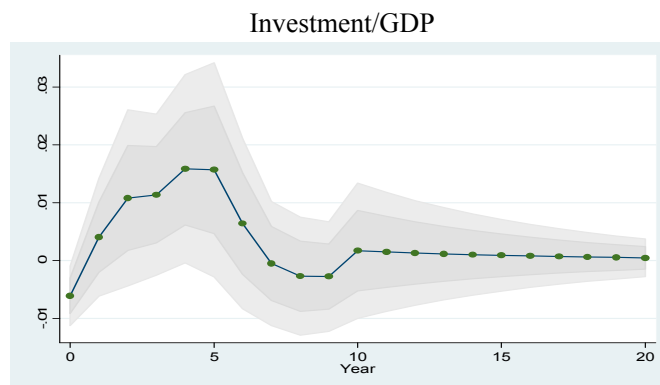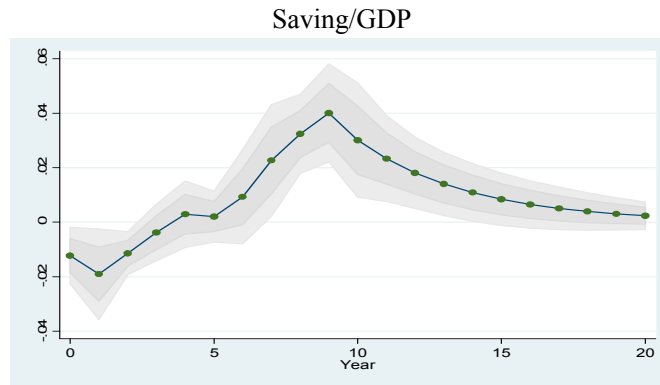

Consumption

Employment Rate

Figure C.III: Selected Discoveries

Note: The figure presents the impulse responses of key macro variables to a giant oil discovery shock for selected giant oil discoveries. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.

4. Controlling for exploration efforts

Log Real GDP

Current Account/GDP

Saving/GDP

Investment/GDP

9

Government Spending/GDP

Consumption
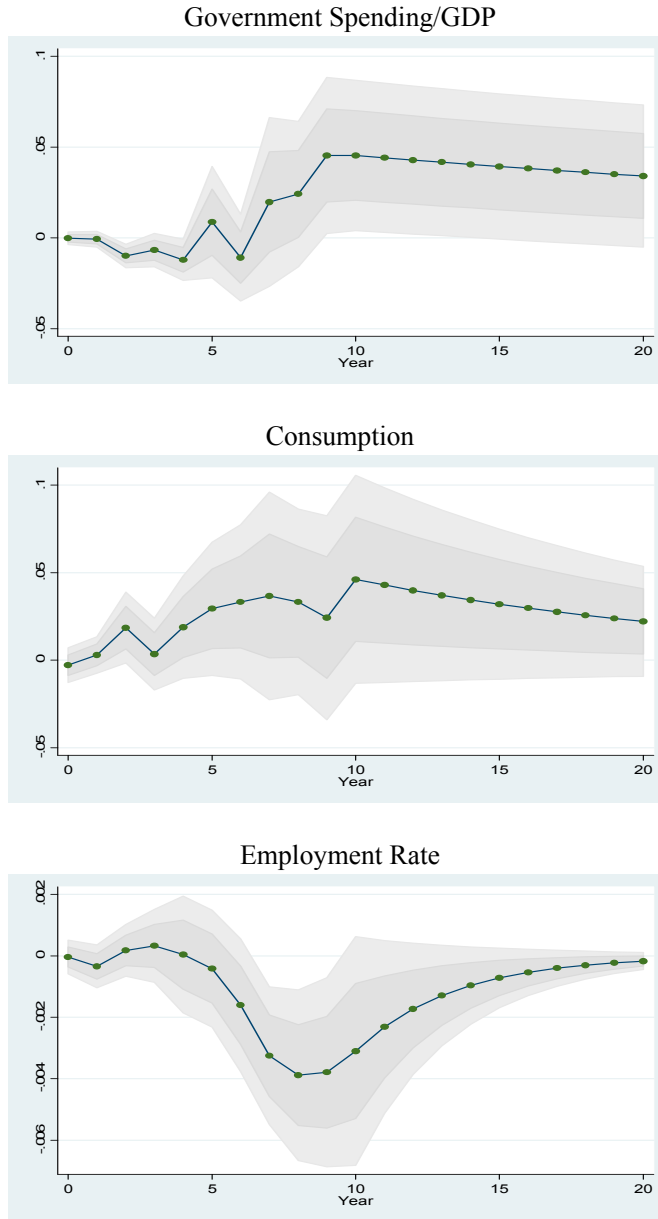

Employment Rate
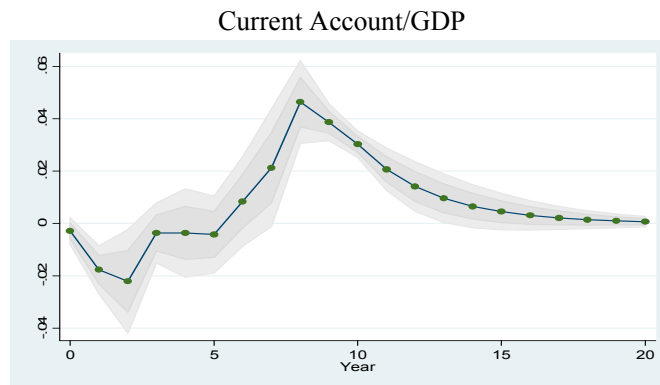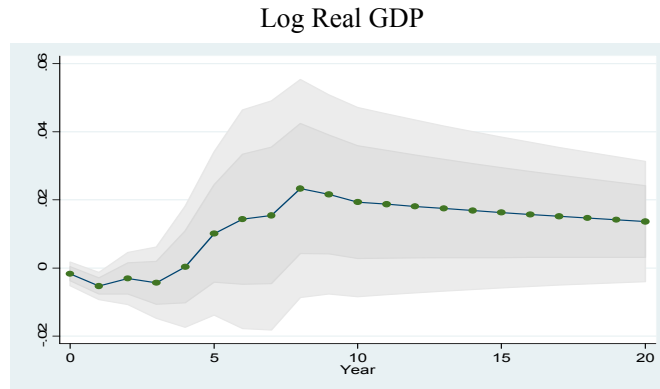
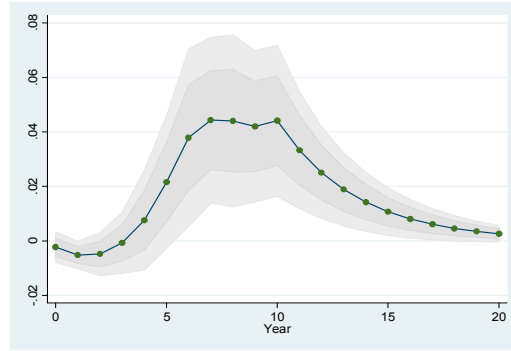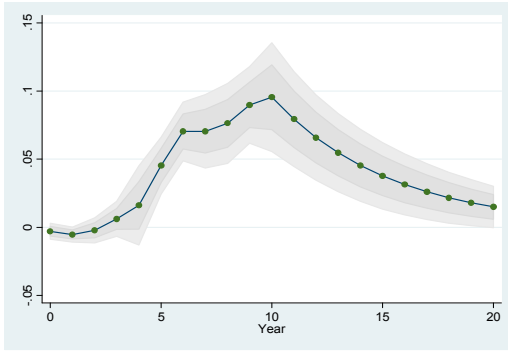Figure C.IV: Controlling for exploration efforts

Note: The figure presents the impulse responses of key macro variables to a giant oil discovery shock controlling for exploration efforts. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.

5. Financial constraints and oil production substitution
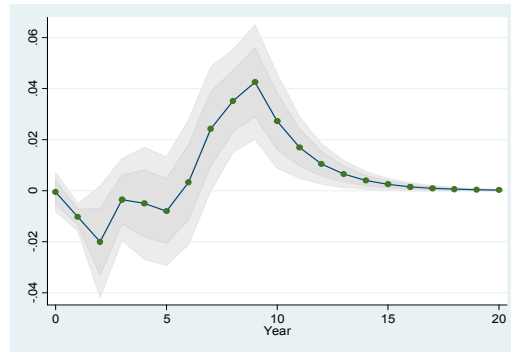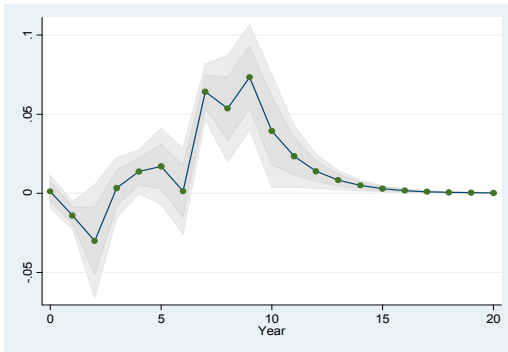
<div style="text-align: center;">

(a) African countries only   (b) Remove top ten oil exporters

</div>

Log Real GDP

Current Account/GDP

Saving/GDP

Investment/GDP

Government Spending/GDP

Consumption

Employment Rate
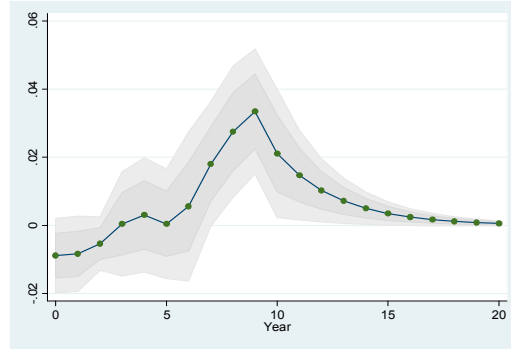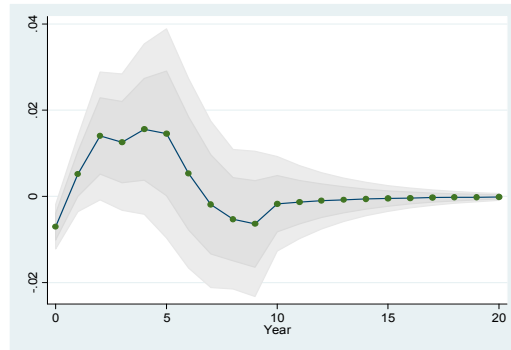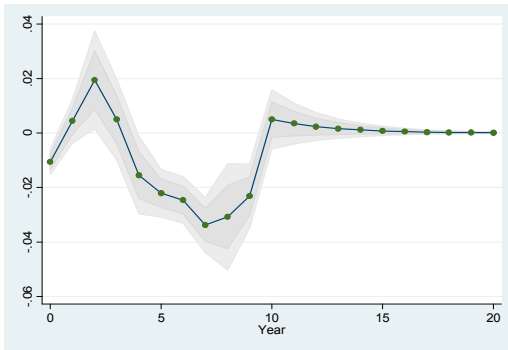
Figure C.V: Financial constraints and oil production substitution

Note: The figure presents the impulse responses of key macro variables to a giant oil discovery shock for selected countries. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.

12

6. Alternative econometric specifications (1)

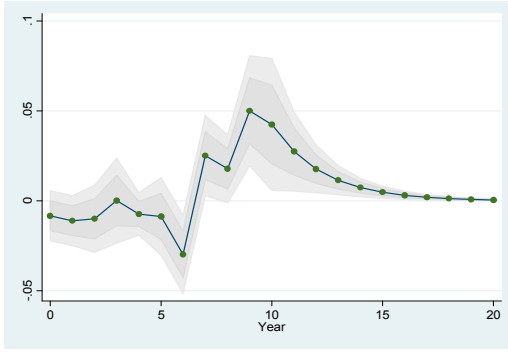(a) p=2, q=10   (b) p=1, q=12

Log Real GDP

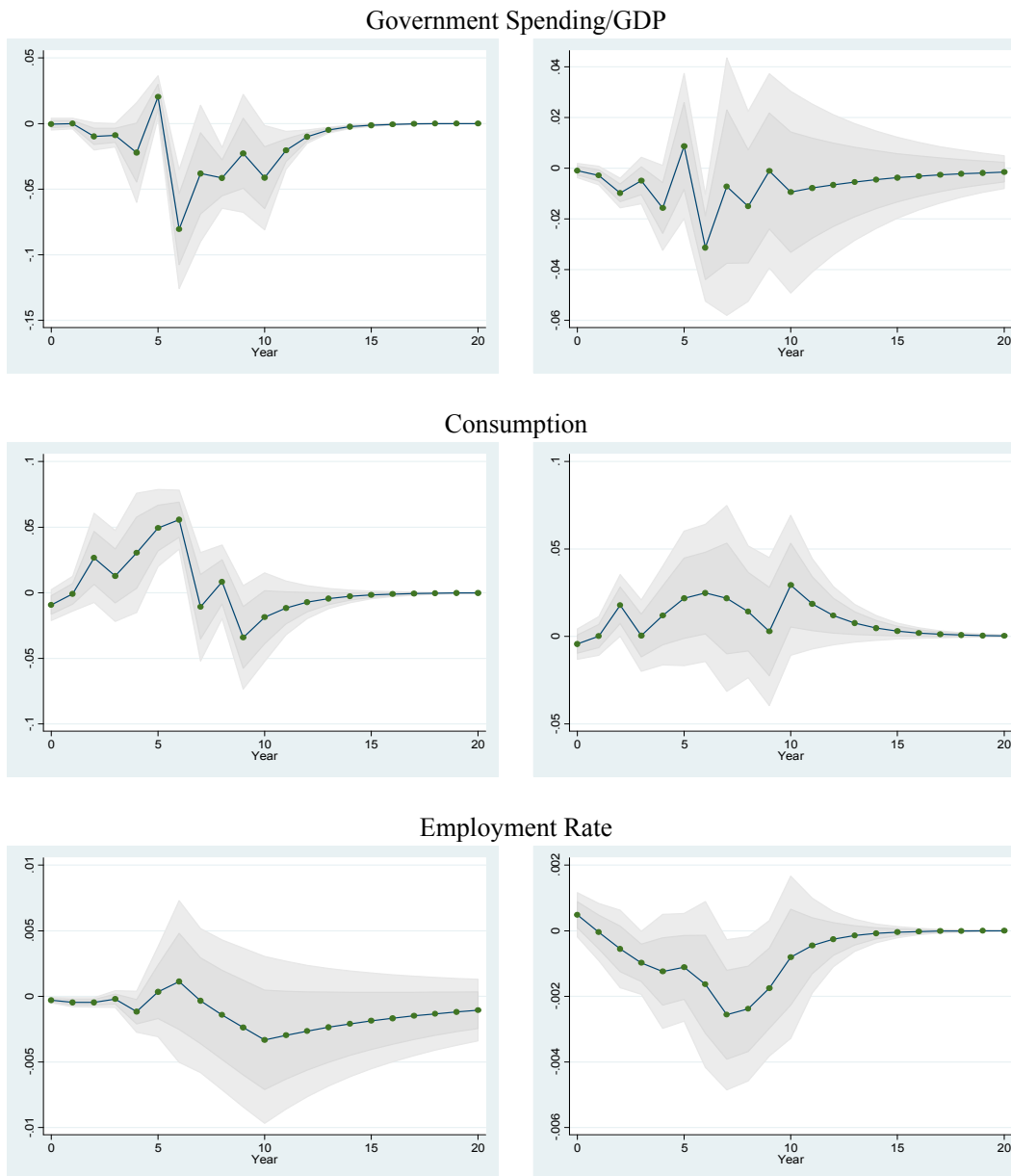## Current Account/GDP

Saving/GDP

Investment/GDP

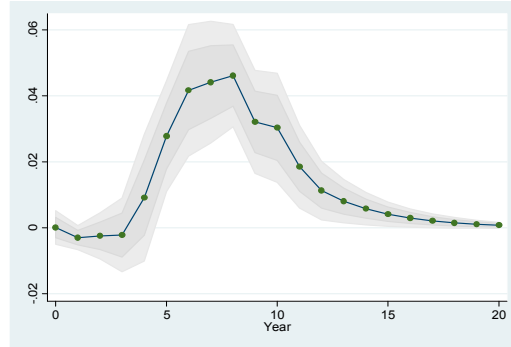Figure C.VI: Alternative Econometric Specifications

Note: The figure presents the impulse responses of key macro variables to a giant oil discovery shock for alternative specifications. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.

6. Alternative econometric specifications (2)

(a) p=1, q=8   (b) No country-specific quadratic trends in
                                      level variables and employment rate

Log Real GDP

Current Account/GDP
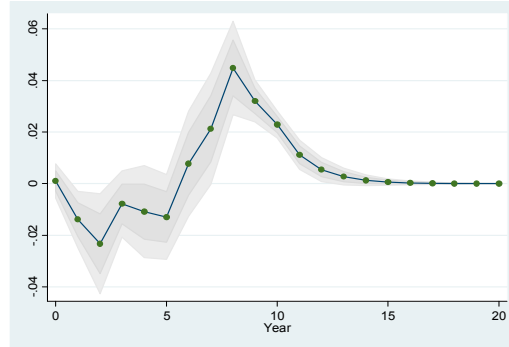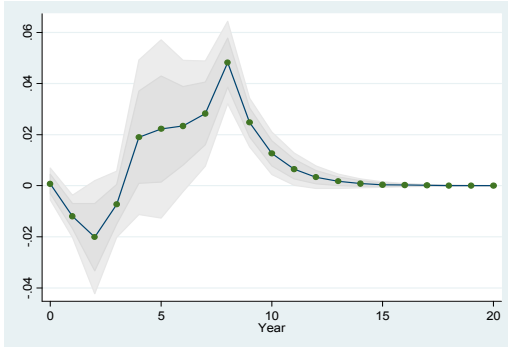
Saving/GDP
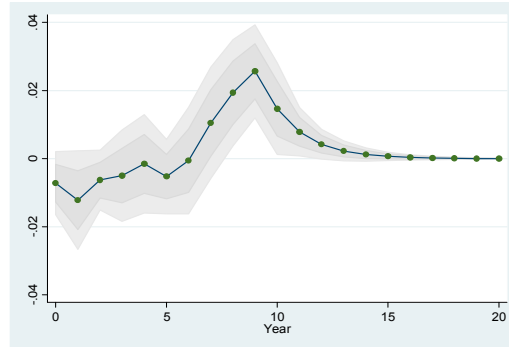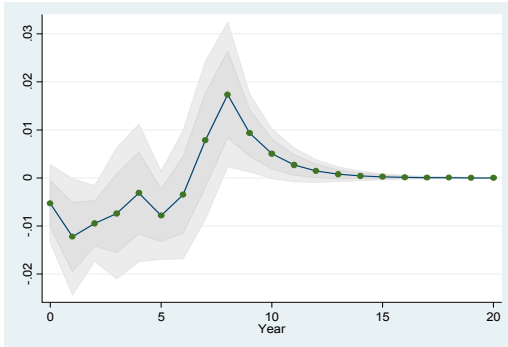
Investment/GDP
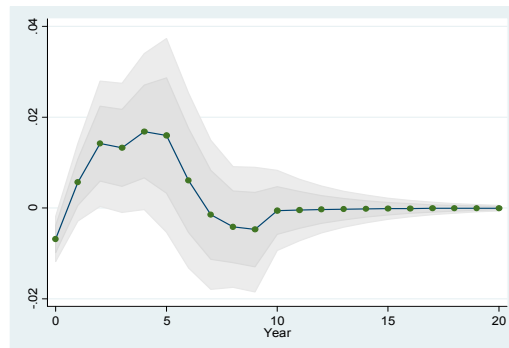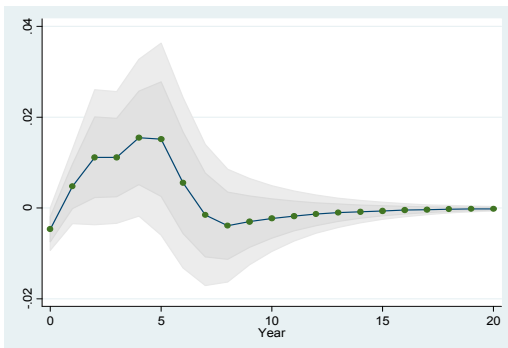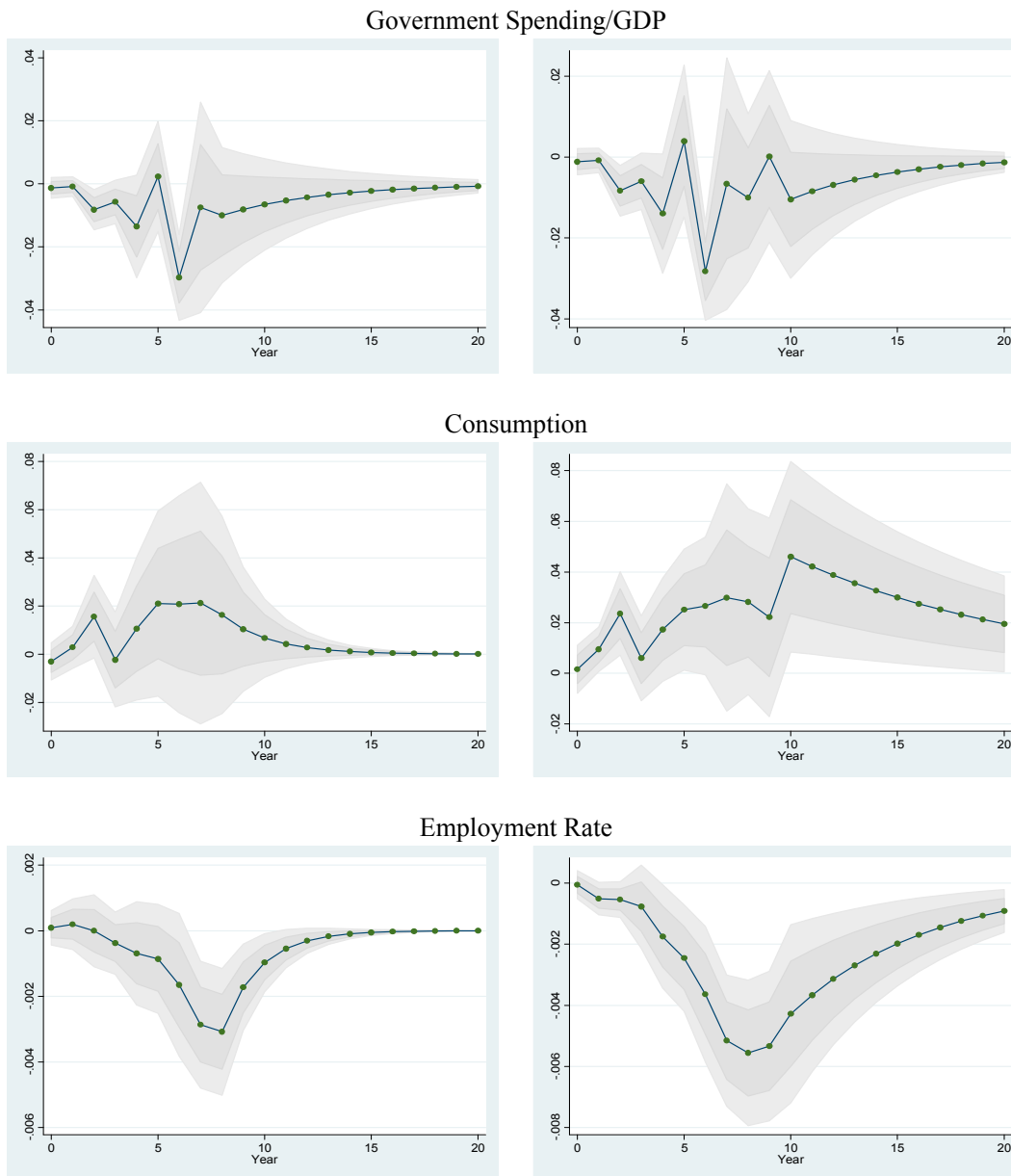
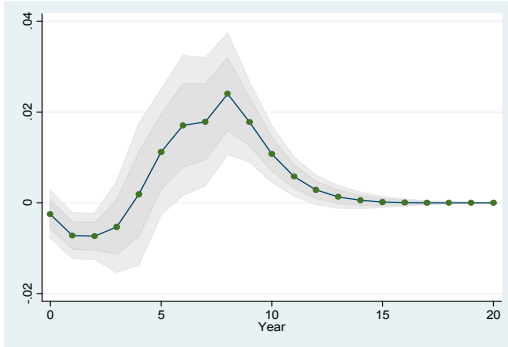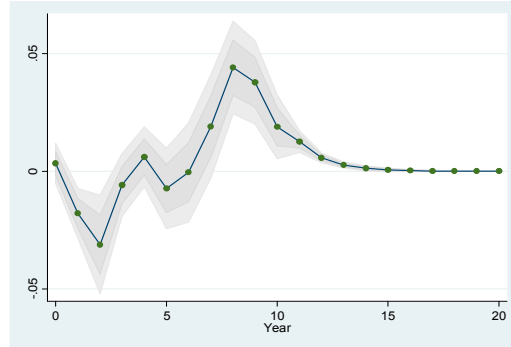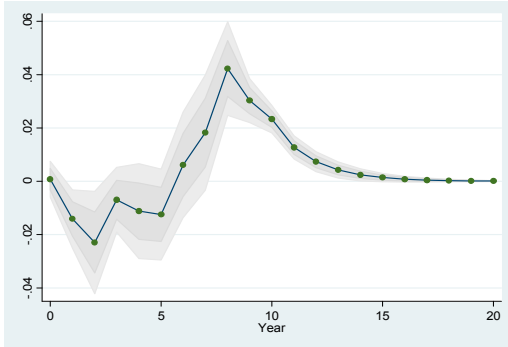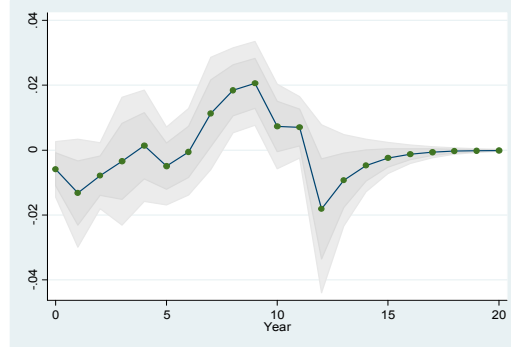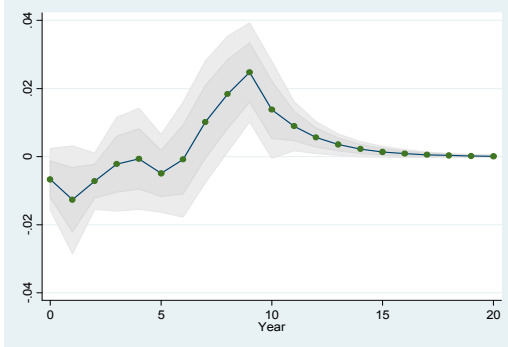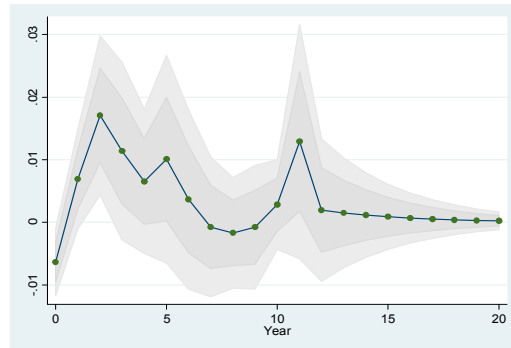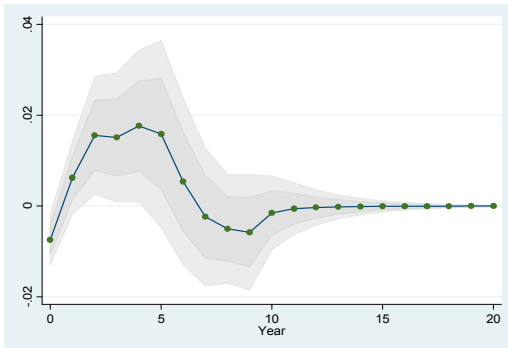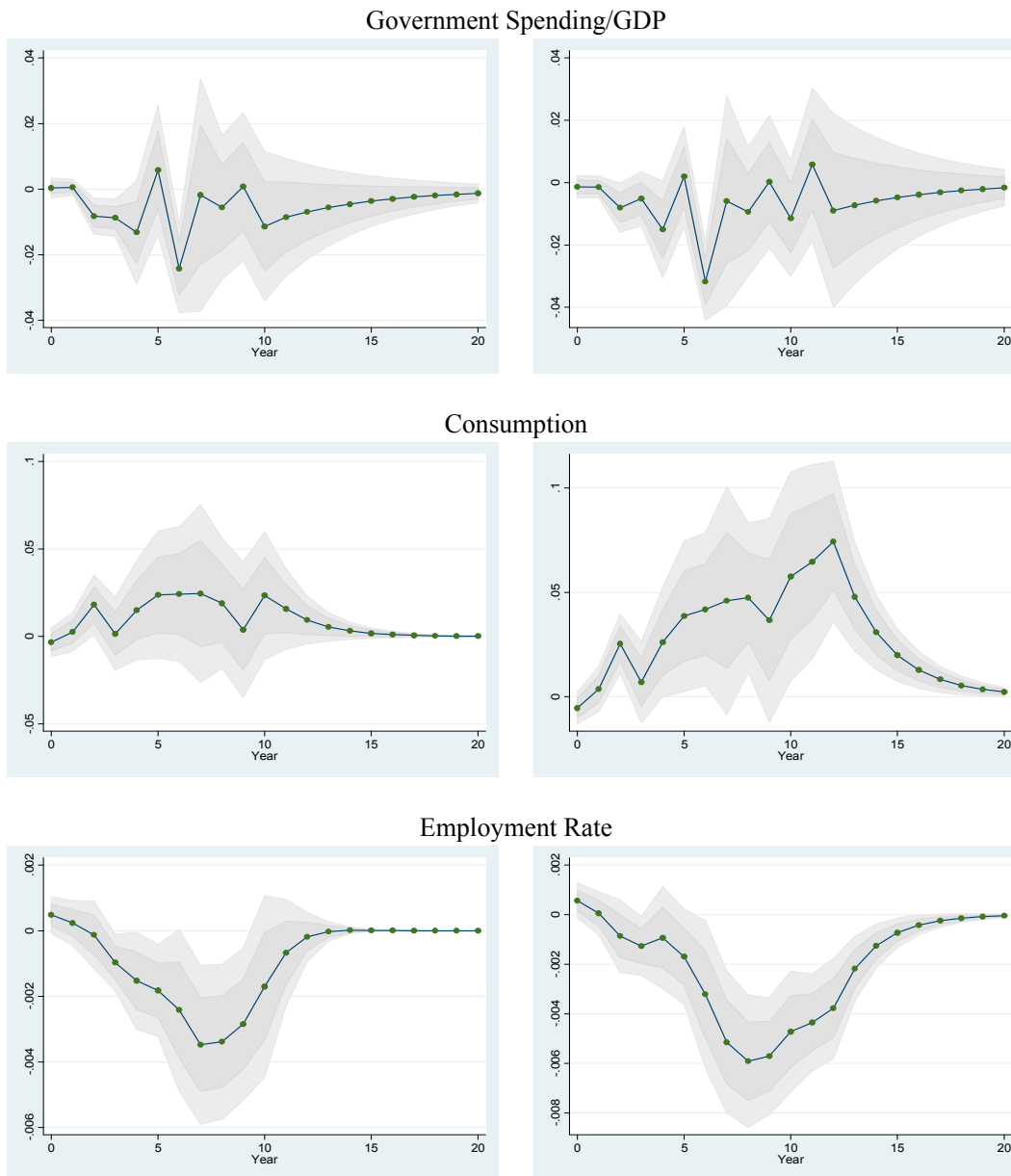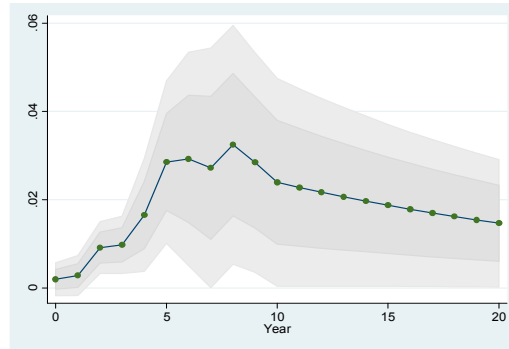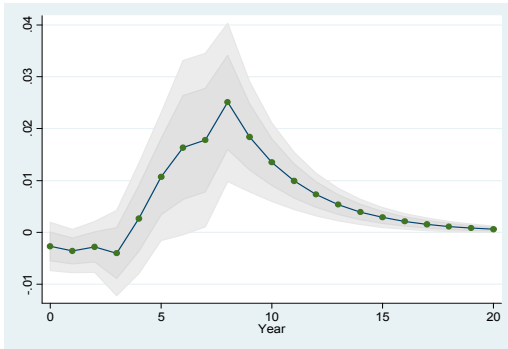Figure C.VII: Alternative Econometric Specifications

Note: The figure presents the impulse responses of key macro variables to a giant oil discovery shock for alternative specifications. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.

7. Real exchange rate response

Log Real Exchange Rate Based on CPI

Log Real Exchange Rate Based on GDP deflator
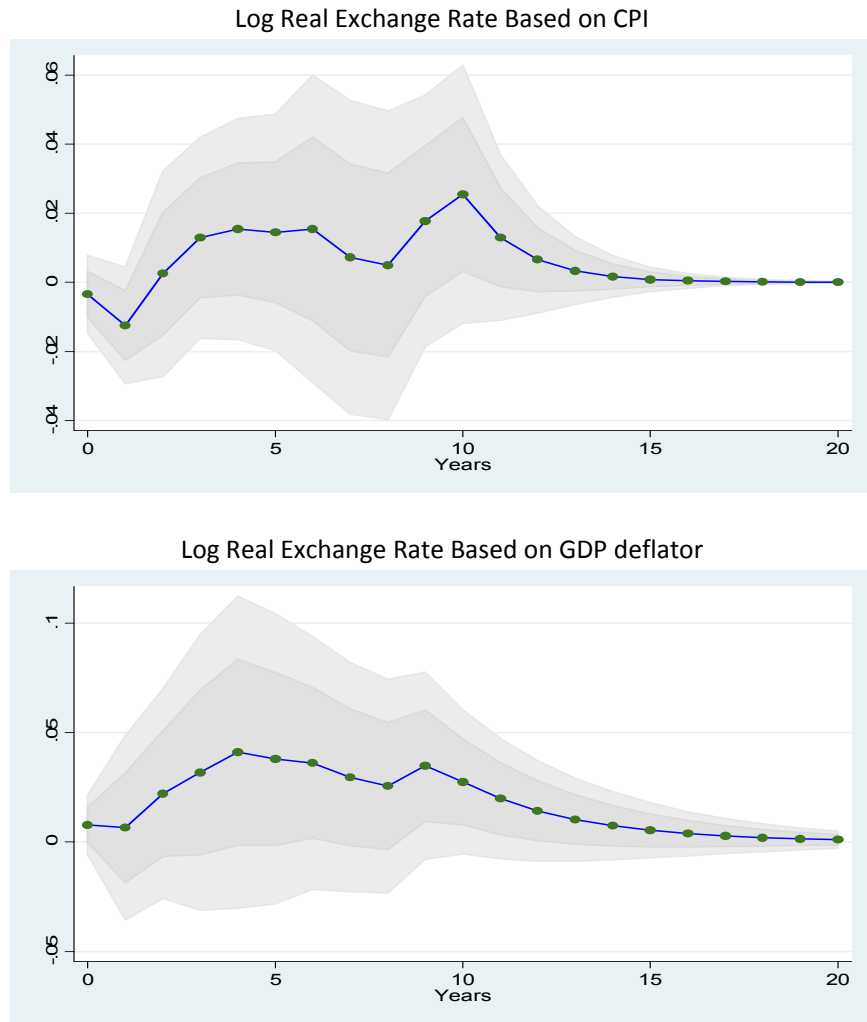
Figure C.VIII: Response of the Real Exchange Rate to a Giant Oil Discovery Shock

Note: The figure presents the impulse responses of the real exchange rates to a giant oil discovery shock, with controls of country-specific quadratic trends. The line with circles indicates point estimates, and grey areas are 90 percent and 68 percent (darker color) confidence intervals. The vertical scale is in percentage points.

8. Baseline coefficient estimates

Table C.I. : Estimation Results

Dependent variables	CA/GDP	Saving/GDP	Investment/GDP	GDP	Consumption	Employment
	(1)	(2)	(3)	(4)	(5)	(6)
Lagged Dependent variable	0.489***	0.536***	0.767***	0.735***	0.641***	0.571***
	(0.106)	(0.125)	(0.025)	(0.038)	(0.033)	(0.057)
Disc	0.001	-0.007	-0.007**	-0.002	-0.004	0.000
	(0.004)	(0.005)	(0.003)	(0.003)	(0.005)	(0.000)
Disc1	-0.014**	-0.008	0.011**	-0.004**	0.004	-0.000
	(0.006)	(0.008)	(0.004)	(0.002)	(0.006)	(0.000)
Disc2	-0.016	0.000	0.010	-0.001	0.016	-0.000
	(0.013)	(0.007)	(0.007)	(0.004)	(0.010)	(0.000)
Disc3	0.004	-0.002	0.002	0.001	-0.010	-0.001
	(0.006)	(0.007)	(0.004)	(0.004)	(0.010)	(0.000)
Disc4	-0.007	0.001	0.007	0.005	0.013	-0.001
	(0.009)	(0.006)	(0.007)	(0.006)	(0.011)	(0.001)
Disc5	-0.008	-0.004	0.003	0.010	0.013	-0.001
	(0.006)	(0.003)	(0.006)	(0.007)	(0.013)	(0.001)
Disc6	0.014	0.002	-0.006	0.010	0.009	-0.002
	(0.009)	(0.007)	(0.004)	(0.006)	(0.010)	(0.001)
Disc7	0.017**	0.011	-0.006*	0.007	0.009	-0.002***
	(0.008)	(0.008)	(0.004)	(0.004)	(0.027)	(0.001)
Disc8	0.034***	0.014*	-0.003	0.012**	0.002	-0.002***
	(0.008)	(0.007)	(0.003)	(0.005)	(0.013)	(0.001)
Disc9	0.010***	0.015*	-0.002	0.001	-0.008	-0.001**
	(0.003)	(0.008)	(0.003)	(0.001)	(0.018)	(0.000)
Disc10	0.007***	0.001	0.003	-0.000	0.020	-0.000
	(0.002)	(0.006)	(0.003)	(0.001)	(0.012)	(0.001)
N	3,727	3,376	3,396	3,813	3,457	2,473
Within R-squared	0.347	0.326	0.620	0.984	0.974	0.842

Constant, year and country fixed effects are included. Country-specific quadratic trends are also included for log level variables and employment rate. Robust standard errors for panel regressions with cross–sectional dependence in parentheses. *** p<0.01, ** p<0.05, * p<0.1.