Appendices

A Heterogeneous Effects: Theory

A.1 The Environment

Suppose the economy is populated by an autocrat and a continuum of citizens. There are two time periods, indexed by $t \in \{1, 2\}$. In period one the state of the world is autocracy, and in period two the state is either autocracy or democracy and is denoted by $S \in \{A, D\}$. There are two types of (exogenous) income in the economy: private income and natural resource rents. Each period citizens receive state-dependent private income, and the government receives natural resource rents in the amount of $R_t \geq 0$.[1] Following Acemoglu and Robinson (2006), we assume that there are two groups of citizens, the rich and the poor.[2] The individual private incomes of the rich and the poor in state S are y_S^r and y_S^p, respectively. The total population of citizens is normalised to unity, and a fraction δ are rich, where $\delta < 1/2$. Total private income coincides with average private income and is equal to $\bar{y}_S = \delta y_S^r + (1 - \delta) y_S^p$. Letting φ denote the fraction of total income held by the rich, the per capita incomes of the rich and poor can be written as

$$y_S^r = \frac{\varphi \bar{y}_S}{\delta} \qquad \text{and} \qquad y_S^p = \frac{(1 - \varphi)\bar{y}_S}{1 - \delta}, \tag{A.1}$$

where $\varphi > \delta$. All citizens are risk neutral.

Private income is potentially taxed under both autocracy and democracy. Under autocracy citizens receive group-specific transfers, or 'bribes,' from the autocrat, whereas under democracy all citizens receive a lump-sum transfer of equal size. Thus the indirect utilities of citizen i in states A and D, respectively, are

$$V_A^i = (1 - \tau_A) y_A^i + b^i \quad \text{and} \quad V_D^i = (1 - \tau_D) y_D^i + T,$$

where τ_S is the tax rate, b^i is the group-specific bribe, and T is the lump-sum transfer. There is an aggregate cost of taxation that is proportional to total income, $C(\tau_S)\bar{y}_S$. We assume that costs are low at low levels of taxation and are increasing and convex for strictly positive tax rates: $C(0) = 0$, $C'(\cdot) > 0$, and $C'(\cdot) > 0$. We also assume $C'(0) = 0$ and $C'(1) = 1$ to ensure an interior solution to the problem that follows. The capacity to tax is nil in period one, but τ_S may be positive in period two.

Under democracy tax revenue and resource rents are shared equally among the citizens.

[1]For example, natural resource rents could arrive in the form of profits from state-owned resource firms or royalties paid by international resource firms.

[2]In contrast to Acemoglu and Robinson (2006), here the rich group is separate from the ruling elite and can potentially challenge the power of the elite.

Thus period-two transfers satisfy the budget constraint,

$$T \leq (\tau_D - C(\tau_D))\bar{y}_D + R_2.$$

The (deposed) autocrat receives income normalised to zero.

Under autocracy the autocrat confiscates the tax revenue and resource rents.[3] However, there are transaction costs associated with stealing government revenue, so the autocrat receives only a fraction $(1-\theta)$ of government revenue, where $\theta \in [0,1]$. Transaction costs may stem from transparency of the budget or administrative procedures (Persson and Tabellini, 2000). More generally, transaction costs depend on the strength of accountability groups which constrain executive power.[4] The greater is the capacity of accountability groups to constrain the executive's ability to act unilaterally, the higher is θ. Let aggregate bribes be denoted by $b = \delta b^r + (1-\delta)b^p$. When the autocrat makes aggregate bribes in the amount of b, he incurs a cost of $(1+\gamma)b$ in period one and group i enjoys the benefits of b^i in period two.[5] Similar to θ, the parameter $\gamma > 0$ captures the marginal transaction cost of making bribes and depends on executive constraints. Assume that the autocrat is risk neutral and discounts future utility by the factor $\beta \in (0,1)$, where $\beta > \varphi$. The autocrat's indirect utility in period t under autocracy is equal to consumption, c_t, where

$$\begin{aligned} & 0 \leq c_1 \leq (1-\theta)R_1 - (1+\gamma)b \\ \text{and} \qquad & 0 \leq c_2 \leq (1-\theta)\left[R_2 + (\tau_A - C(\tau_A))\bar{y}_A\right]. \end{aligned}$$

Note that we have assumed that the autocrat is credit-constrained. This is a reasonable assumption to a first approximation: the more unilateral authority the ruler has, the less likely he is to be compelled to repay a loan, making him a risky borrower.[6]

[3]Using data on deposits to offshore bank accounts, Andersen *et al.* (2017) show that political elites appropriate oil rents in oil-rich autocracies but not in oil-rich democracies.

[4]A powerful legislature and an independent judiciary are archetypal accountability groups, but in nondemocracies executive accountability may derive from other sources. In a one-party government the executive may be constrained by senior officials in the ruling party. In a monarchy a council of nobles may provide a check on the king's power. The military may even provide a counterbalance in coup-prone polities (Marshall and Gurr, 2014). Finally, powerful producer groups, such as the cattle ranchers in Botswana, can restrain executive power (Acemoglu *et al.*, 2003). Strong accountability groups force the autocrat to use convoluted, opaque methods of stealing the rents, costing the autocrat θR_t. Alternatively, one can think of θ as the fraction of rents the autocrat must pay to accountability groups as bribes in exchange for keeping a fraction $1-\theta$ of the rents. Interpreting the allocation of rents as the result of a Nash bargaining game, θ represents the bargaining power of accountability groups relative to the ruler.

[5]This timing assumption could capture the fact that many potential group-specific transfers—public employment, targeted public goods, or exclusive production rights—are enjoyed with a time lag. The autocrat's period-one cost of providing b could reflect an upfront investment cost or an opportunity cost of guaranteeing liquidity in period two.

[6]See, for example, North and Weingast (1989).

A.2 The Political Game

Timing. The timing of events is as follows. In the beginning of the first period, the autocrat receives $(1-\theta)R_1$ and announces period-two policies (τ_A, b^r, b^p). We assume that the autocrat can fully commit to period-two policies in period one.[7] Tax policy is set with a one-period delay, so the autocrat can only choose period-two taxes.[8] At the end of the first period, the citizens decide whether to stage a revolution to depose the autocrat. We assume that the revolution succeeds if and only if both groups of citizens participate. A group of citizens participate in the revolution if and only if their period-two payoff under democracy strictly exceeds their period-two payoff under autocracy, given the (binding) promises of the autocrat. We assume that citizens can commit to their period-two rebellion decision in period one. If the revolution succeeds, then the state transitions to democracy, the autocrat receives zero income, and rich and poor citizens vote on the tax rate and transfers and receive payoffs V_D^r and V_D^p. If the revolution fails, then the autocrat stays in power, implements policies (τ_A, b^r, b^p), and receives $(1-\theta)\left[R_2 + (\tau_A - C(\tau_A))\bar{y}_A\right]$; and rich and poor citizens receive payoffs V_A^r and V_A^p.

Period-two equilibrium. To characterise the subgame perfect Nash equilibrium, we work backwards and first consider the Nash equilibrium starting in period two. If the state is autocracy in the second period, then each player's strategy and payoff is determined by policy commitments made in the first period. Citizen i receives $(1-\tau_A)y_A^i + b^i$ and the autocrat receives $(1-\theta)\left[R_2 + (\tau_A - C(\tau_A))\bar{y}_A\right]$.

If the state is democracy in the second period, then citizens vote on the tax rate, τ_D, and the level of lump-sum transfers, T. Because utility is strictly increasing in transfers (all else equal), the budget constraint will always bind: $T = (\tau_D - C(\tau_D))\bar{y}_D + R_2$. For a given value of τ_D, the payoff of citizen i under democracy is

$$(1-\tau_D)y_D^i + (\tau_D - C(\tau_D))\bar{y}_D + R_2. \tag{A.2}$$

Let τ_D^i denote the most preferred tax rate of citizen i. Because there are no public goods in this economy, the sole function of the tax is redistribution. Therefore, $\tau_D^r = 0$. Substituting (A.1) into (A.2), it is straightforward to show that the most preferred tax rate of a poor citizen satisfies

$$C'(\tau_D^p) = \frac{\varphi - \delta}{1-\delta}.$$

It follows from our assumptions that $\tau_D^p \in (0,1)$ and τ_D^p is increasing in the amount of inequality, φ. It is possible to show that both poor and rich citizens have single-peaked preferences over

[7] Thus we abstract from the possibility that democratisation could result from the elite's inability to commit to future policy (Acemoglu and Robinson, 2006).

[8] Taxation requires significant investments in the government's ability to monitor citizens and enforce the tax code (Besley and Persson, 2011). For simplicity we capture this fact by assuming that tax policy is implemented with a delay, abstracting from investment costs.

τ_D.[9] Suppose that under democracy τ_D is chosen by pairwise majority voting in an environment with no uncertainty. Then by the median-voter theorem, the most preferred policy of the median voter, τ_D^p, is selected (Black, 1948; Downs, 1957). The equilibrium payoff to citizen i under democracy is then

$$V_D^i = (1 - \tau_D^p) y_D^i + (\tau_D^p - C(\tau_D^p)) \bar{y}_D + R_2.$$

Period-one equilibrium. At the end of period one, each citizen chooses whether to participate in the revolution, given the period-two equilibrium policies under autocracy, (τ_A, b^r, b^p), and under democracy, (τ_D^p, T). Citizen i participates in the revolution if and only if $V_D^i > V_A^i$. Equivalently, for each value of τ_A, citizen i participates in the revolution if and only if $b^i < \tilde{b}^i(\tau_A)$, where

$$\tilde{b}^i(\tau_A) = (1 - \tau_D^p) y_D^i + (\tau_D^p - C(\tau_D^p)) \bar{y}_D + R_2 - (1 - \tau_A) y_A^i.$$

Note that $\tilde{b}^i(\tau_A)$ is strictly increasing in τ_A: increasing the tax rate under autocracy causes citizen i to demand a larger reservation bribe in exchange for not rebelling. The following assumption ensures that democracy is sufficiently appealing relative to autocracy that $\tilde{b}^i(\tau_A) > 0$ for any R_2 and τ_A.

Assumption A.1. *$G^i \equiv (1 - \tau_D^p) y_D^i + (\tau_D^p - C(\tau_D^p)) \bar{y}_D - y_A^i > 0$ for $i \in \{r, p\}$.*

In the beginning of period one, the autocrat chooses period-two policies, (τ_A, b^r, b^p), to maximise his lifetime discounted utility, taking the strategies of citizens as given. Letting $(\tau_A, b^r, b^p) \in \mathcal{P}$, the function $\rho : \mathcal{P} \mapsto \{0, 1\}$ indicates whether the revolution is prevented, where $\rho(\tau_A, b^r, b^p) = 1$ indicates prevention. The autocrat's problem is

$$\max_{\tau_A, b^r, b^p} (1 - \theta) R_1 - (1 + \gamma) b + \rho(\tau_A, b^r, b^p) \beta (1 - \theta) \left[R_2 + (\tau_A - C(\tau_A)) \bar{y}_A \right]$$

$$\begin{aligned} \text{subject to} \qquad & b = \delta b^r + (1 - \delta) b^p \\ & (1 + \gamma) b \leq (1 - \theta) R_1 \\ & \rho(\tau_A, b^r, b^p) = \begin{cases} 1 & \text{if } b^r \geq \tilde{b}^r(\tau_A) \text{ or } b^p \geq \tilde{b}^p(\tau_A) \\ 0 & \text{otherwise.} \end{cases} \end{aligned}$$

Strictly speaking, R_2 denotes expected period-two resource rents from the perspective of period one.

For each τ_A it is optimal for the autocrat to pay bribes (b^r, b^p), with $b^i > 0$ for some $i \in \{r, p\}$, if and only if three conditions are satisfied:

[9] The strict convexity of $C(\cdot)$ guarantees that the indirect utility function is strictly concave in τ. This is a sufficient condition for preferences to be single-peaked.

(i) Sufficiency: $\rho(\tau_A, b^r, b^p) = 1$

(ii) Feasibility: $(1+\gamma)b \leq (1-\theta)R_1$

(iii) Desirability: $(1+\gamma)b \leq \beta(1-\theta)\left[R_2 + (\tau_A - C(\tau_A))\bar{y}_A\right]$.

The bribes are sufficient if they prevent the revolution, they are feasible if the autocrat has enough income in period one to cover the cost of the bribes, and they are desirable if the autocrat's expected benefit from staying in power exceeds the cost of the bribes. If no set of bribes satisfy all three conditions, the autocrat sets $b^r = b^p = 0$ and the state transitions to democracy in period two.

If the autocrat chooses to pay bribes to avert a revolution, it is optimal to bribe only one group of citizens. To simplify the analysis, we assume that the rich are cheaper to bribe than the poor.

Assumption A.2. *$\delta\tilde{b}^r(\tau_A) \leq (1-\delta)\tilde{b}^p(\tau_A)$ for all $\tau_A \in [0,1]$.*

This assumption is reasonable because the rich are less numerous and have more to lose from democracy than the poor.[10] Assumption A.2 is more likely to hold the smaller is δ and the larger are τ_D^p, R_2, and $\bar{y}_A$. When the autocrat chooses to pay bribes, he will pay each rich citizen exactly $\tilde{b}^r(\tau_A)$ so that $b = \delta\tilde{b}^r(\tau_A)$.

We make the following parametric assumptions for γ.

Assumption A.3. *$\beta/\varphi - 1 < \gamma < \beta/\delta - 1$.*

The first inequality rules out the situation in which the autocrat both taxes and bribes the rich citizens in order to prevent a revolution. To see this, note that when $b = \delta\tilde{b}^r(\tau_A)$, the autocrat's marginal cost of increasing τ_A is $(1+\gamma)\varphi\bar{y}_A$, while his marginal benefit is $\beta(1-\theta)(1-C'(\tau_A))\bar{y}_A$. Assumption A.3 guarantees that the marginal cost of increasing τ_A exceeds the marginal benefit for all values of τ_A and θ. Thus the autocrat will set $\tau_A = 0$ whenever $b = \delta\tilde{b}^r(\tau_A)$. The second inequality guarantees that a threshold value $\theta^*(\gamma)$, which will be described below, is strictly positive.

Noting that $\rho(0, \tilde{b}^r(0), 0) = 1$ and $\tilde{b}^r(0) = G^r + R_2$, where G^r is defined in Assumption A.1, the autocrat will set $\tau_A = 0$ and $b = \delta\tilde{b}^r(0)$ if and only if the following conditions are satisfied:

(i) Feasibility: $\delta(1+\gamma)(G^r + R_2) \leq (1-\theta)R_1$

(ii) Desirability: $\delta(1+\gamma)(G^r + R_2) \leq \beta(1-\theta)R_2$.

The following definitions are useful for studying the comparative statics of the model.

Definition A.4. *A **resource boom** is an increase in both R_1 and R_2.*

[10]Note that the assumption is weaker than assuming that $\tilde{b}^r(\tau_A) \leq \tilde{b}^p(\tau_A)$ for all $\tau_A \in [0,1]$, because $\delta < 1/2$.

Definition A.5. *In an economy with parameter values* (δ, γ, θ)*, a* ***balanced resource boom*** *is a resource boom that satisfies*

$$\frac{\Delta R_2}{\Delta R_1} < \frac{1-\theta}{\delta(1+\gamma)}.$$

Because an increase in R_2 increases the attractiveness of democracy to the citizens, if the increase in R_2 far exceeds the increase in R_1, the autocrat will be unable to pay the reservation bribe of the rich. In contrast, a balanced resource boom increases the likelihood that the feasibility constraint is satisfied, because the increase in R_2 is not 'too large' relative to the increase in R_1. Because Assumption A.3 implies that $\delta(1+\gamma) < \beta$, a balanced resource boom could involve $\Delta R_2 > \Delta R_1$. Note that a resource boom is more likely to be balanced the smaller are γ and θ.

A.3 Results

We are now ready to state the main results.

Proposition A.6. *For each* γ *there exists a threshold value* $\theta^*(\gamma) \in (0,1)$ *such that for* $\theta < \theta^*(\gamma)$*, a balanced resource boom makes the transition to democracy less likely, the lower is* θ*. For* $\theta \geq \theta^*(\gamma)$ *the state transitions to democracy for any* $(R_1, R_2) \geq 0$.

Proof. First note that the feasibility constraint is satisfied because the resource boom is balanced. Let $\theta^*(\gamma) = 1 - \delta(1+\gamma)/\beta$, which is in $(0,1)$ by Assumption A.3. When $\theta < \theta^*(\gamma)$, we have that $\beta(1-\theta) - \delta(1+\gamma)$ is positive and decreasing in θ. This means that an increase in R_2 increases the likelihood that the desirability constraint is satisfied, and the marginal effect of R_2 on desirability is decreasing in θ. When $\theta \geq \theta^*(\gamma)$, the desirability constraint is always violated. □

Proposition A.6 states that a balanced increase in resource rents will lower the chances of democratisation when constraints on the ruler are sufficiently weak. However, when constraints are strong, no resource boom can impede democratisation. The assumption that the autocrat is credit-constrained necessitates that the resource boom be balanced. Note that both types of marginal transaction costs induced by executive constraints, γ and θ, matter for the outcome. For example, lowering γ (subject to Assumption A.3 holding) increases $\theta^*(\gamma)$, raising the likelihood that a balanced resource boom impedes democratisation for a given value of θ.

Corollary A.7. *There exists a threshold value* $\theta^* \in (0,1)$ *such that for* $\theta < \theta^*$*, a balanced resource boom is more likely to result in zero tax revenue, the lower is* θ*. For* $\theta \geq \theta^*$ *taxes are positive for any* $(R_1, R_2) \geq 0$.

Proof. The result follows immediately from Proposition A.6 by noting that under autocracy, $\tau_A = 0$, while under democracy, $\tau_D = \tau_D^p > 0$. □

The prediction of Corollary A.7 contrasts with that of the fiscal capacity model of Besley and Persson (2011). In their model political transitions are exogenous and taxation is used either to fund a public good or to redistribute income to the group in power. An increase in resource wealth leads to lower taxes only when institutions are 'cohesive,' i.e., θ is large. This is because in their model tax revenue is spent on the public good when institutions are cohesive, and the diminishing marginal utility of the public good implies that tax revenue is less valuable after a resource windfall that relaxes the budget constraint. For small values of θ, resource wealth does not affect equilibrium taxation in their model. In our model the mechanism determining the tax rate is quite different: the political transition is endogenous, and equilibrium taxation depends on the incumbent's ability and willingness to use patronage to remain in power. Figure C.16 graphically demonstrates how the effect of a resource boom on the suppression decision depends on the strength of executive constraints.

B Tables

Table B.1: Variable Descriptions and Sources

Variable	Definition	Source
Democracy, 2008	POLITY2 index in 2008, normalised to take values between zero and one	Polity IV
Avg. Democracy, 1966–2008	Average normalised POLITY2 index from 1966–2008 in years in which the country was independent	Polity IV
Corruption, 2008	Recoded corruption index in 2008 ranging from 0 to 6, with higher numbers indicating more corruption	PRS
Internal Conflict, 1966–2008	Internal or internationalised internal armed conflicts per year in which country was independent from 1966–2008	UCDP/PRIO
Coup Attempts, 1966–2008	(Failed or successful) coup attempts per year in which country was independent from 1966–2008	Polity IV
Purges, 1966–2008	Political purges per year in which country was independent from 1966–2008	CNTS
Total Revenue, 2000–2008	Log of average government revenue share of GDP from 2000–2008	ICTD
Tax Revenue, 2000–2008	Log of average tax revenue share of GDP from 2000–2008	ICTD
GDP, 2008	Log of GDP per capita in 2008 in constant 2011 international dollars	WDI
Non-Oil GDP, 2008	Log of non-oil GDP per capita in 2008 in constant 2011 international dollars	WDI
Non-Oil/Gas GDP, 2008	Log of non-oil/gas GDP per capita in 2008 in constant 2011 international dollars	WDI
Non-Resource GDP, 2008	Log of non-resource GDP per capita in 2008 in constant 2011 international dollars	WDI
Manufacturing GDP, 2008	Log of manufacturing value added per capita in 2008 in constant 2011 international dollars	WDI
Population Density, 2008	Log of population in 2008 divided by land area	Maddison, GIS
Executive Constraints, 1950–1966	Average XCONST index from 1950–1965 after normalizing XCONST to take values between zero and one	Polity IV
Weak Constraints, 1950–1966	Indicates having averaged three points or fewer out of seven on XCONST from 1950–1965	Polity IV
Oil Production, 1966–2008	Log of average annual metric tons of oil produced per 1000 inhabitants from 1966–2008	Ross
Oil Endowment	Log of total oil endowment in millions of barrels per 1000 inhabitants in 1960	ASPO
Basin Type Area	Log of sovereign area covered by a type of basin in square km per 1000 inhabitants in 1960 (see Tables B.3, B.4, B.5)	Tellus
Land Area	Log of land area in square km per 1000 inhabitants in 1960	GIS
Coastline	Log of length of coastline in km per 1000 inhabitants in 1960	CIA
Mountainous Area	Log of mountainous land area in square km per 1000 inhabitants in 1960	FL
Tropical Area	Log of land area falling within tropics in square km per 1000 inhabitants in 1960	GSM
Good Soil Area	Log of land area containing ‘good’ soil in square km per 1000 inhabitants in 1960	GAEZ

Notes. Polity IV stands for the Polity IV Project (Marshall and Gurr, 2014; Marshall and Marshall, 2016). PRS stands for Political Risk Services. UCDP/PRIO stands for the UCDP/PRIO Armed Conflict Dataset (Gleditsch *et al.*, 2002). CNTS stands for Cross-National Time-Series Data Archive (Banks and Wilson, 2016). ICTD stands for International Centre for Tax and Development (Prichard *et al.*, 2014). WDI stands for the World Bank World Development Indicators. Maddison stands for the Maddison Project (Maddison, 2013). Ross stands for Ross (2013). ASPO stands for Association for the Study of Peak Oil. WOGR stands for the World Oil and Gas Review published by ENI (ENI, 2015). Tellus stands for the Fugro Robertson, Ltd. (2013) Tellus GIS database. GIS stands for author’s calculation using ArcGIS. CIA stands for CIA World Factbook (CIA, 2015). FL stands for Fearon and Laitin (2003). GSM stands for Gallup *et al.* (1998). GAEZ stands for the FAO’s Global Agro-Ecological Zones database (version 3.0) (Fischer *et al.*, 2002).

Table B.2: Variable Descriptions and Sources (Continued)

Variable	Definition	Source
Urbanisation, 1850	Urbanisation rate in 1850	Chandler
British Legal Origin	Equals one if the country has a British legal origin, and zero otherwise	Easterly
Communist Legacy	Equals one if the country has a legacy of communism, and zero otherwise	Kornai
Percentage Christian, 1950	Percentage of the population that was Christian in 1950	WRD
Percentage Muslim, 1950	Percentage of the population that was Muslim in 1950	WRD
Percentage Hindu, 1950	Percentage of the population that was Hindu in 1950	WRD
Ethnic Fractionalisation	$1-\sum_{i=1}^{N} s_{ij}^2$, where s_{ij} is the share of ethnic group $i \in \{1,...,N\}$ in country j	Alesina *et al.*
Religious Fractionalisation	$1-\sum_{i=1}^{N} s_{ij}^2$, where s_{ij} is the share of religious group $i \in \{1,...,N\}$ in country j	Alesina *et al.*
Linguistic Fractionalisation	$1-\sum_{i=1}^{N} s_{ij}^2$, where s_{ij} is the share of linguistic group $i \in \{1,...,N\}$ in country j	Alesina *et al.*

Notes. Chandler stands for Chandler (1987). Easterly stands for William Easterly's Global Development Network Growth Database (Easterly, 2001). Kornai stands for Kornai (1992). WRD stands for the World Religion Database (Johnson and Grim, 2017). Alesina *et al.* stands for Alesina *et al.* (2003).

Table B.3: Fugro Robertson Global Basin Classification Codes

Sub-Regime Group	Code	Sub-Regime Name
Convergent (Continent-Continent)	C.1.F	Peripheral Foreland (Continent-Continent)
	C.1.F(p)	Peripheral Foreland with Piggyback (Continent-Continent)
	C.1.POE	Late to Post-Orogenic Extension (Continent-Continent)
	C.1.SOE	Syn-Orogenic Extensional (Continent-Continent)
	C.1.TOC	Trapped Oceanic Crustal Sag (Continent-Continent)
	C.1.W	Intramontane Wrench (Continent-Continent)
Convergent (Ocean-Continent)	C.2.E	Retro-Arc Extensional (Ocean-Continent)
	C.2.F	Retro-Arc Foreland (Ocean-Continent)
	C.2.FA	Fore-Arc (Ocean-Continent)
	C.2.S	Retro-Arc Post-Extensional Sag (Ocean-Continent)
	C.2.W	Arc-Related Wrench (Ocean-Continent)
Convergent (Ocean-Ocean)	C.3.E	Retro-Arc Extensional (Ocean-Ocean)
	C.3.F	Retro-Arc Foreland (Ocean-Ocean)
	C.3.FA	Fore-Arc (Ocean-Ocean)
	C.3.S	Retro-Arc Post-Extensional Sag (Ocean-Ocean)
	C.3.W	Arc-Related Wrench (Ocean-Ocean)
Divergent	D.1	Rift
	D.2	Intracratonic Sag
	D.3	Post-Rift Sag
	D.3(i)	Post-Rift Sag with Inversion
	D.4	Passive Margin
	D.4(i)	Passive Margin with Inversion
Wrench	W.1	Intracratonic Wrench
	W.2	Wrench (Ocean-Continent)

Source. Fugro Robertson, Ltd. (2013).

Table B.4: Grouping by Plate-Tectonic Environment and Primary Subsidence Mechanism

Number	Tectonics	Subsidence	Basin Aggregation in Group
1	Convergent C-C	Mechanical	C.1.F + C.1.F(p) + C.1.SOE + C.1.W
2	Convergent C-C	Thermo-Mechanical	C.1.POE + C.1.TOC
3	Convergent O-C	Mechanical	C.2.E + C.2.F + C.2.FA + C.2.W
4	Convergent O-C	Thermal	C.2.S
5	Convergent O-O	Mechanical or Thermal	C.3.E + C.3.F + C.3.FA + C.3.S + C.3.W
6	Divergent	Mechanical	D.1
7	Divergent	Thermal	D.2 + D.3 + D.3(i) + D.4 + D.4(i)
8	Wrench	Mechanical	W.1 + W.2

Notes. The categorisation is from Fugro Robertson, Ltd. (2013). See Table B.3 for the basin types associated with each code. In ‘C-C,’ ‘O-C,’ and ‘O-O,’ ‘C’ stands for continent, and ‘O’ stands for ‘Ocean.’

Table B.5: Grouping by Final Component of Fugro Tellus Code

Number	Group Name	Basin Aggregation in Group
1	Foreland	C.1.F + C.1.F(p) + C.2.F + C.3.F
2	Fore-Arc	C.2.FA + C.3.FA
3	Extensional	C.1.POE + C.1.SOE + C.2.E + C.3.E
4	Convergent Sag	C.1.TOC + C.2.S + C.3.S
5	Convergent Wrench	C.1.W + C.2.W + C.3.W
6	Rift	D.1
7	Intracratonic Sag	D.2
8	Post-Rift Sag	D.3 + D.3(i)
9	Passive Margin	D.4 + D.4(i)
10	Wrench	W.1 + W.2

Notes. The categorisation is from Fugro Robertson, Ltd. (2013). See Table B.3 for the basin types associated with each code.

Table B.6: Total Basin Coverage of Sovereign Area by Region

	Mean	Std. Dev.	Min.	Max.	Obs.
East Asia and the Pacific	0.39	0.25	0.00	0.75	20
Eastern Europe and Central Asia	0.67	0.28	0.13	1.00	23
Rest of Europe and Neo-Europes	0.57	0.32	0.00	1.00	26
Latin America and the Caribbean	0.56	0.22	0.12	0.99	30
Middle East and North Africa	0.86	0.20	0.35	1.00	21
Sub-Saharan Africa	0.44	0.28	0.00	0.90	45
South Asia	0.55	0.32	0.03	1.00	7
Total	0.56	0.30	0.00	1.00	172

Notes. This table summarises the portion of country sovereign area containing any type of sedimentary basin.

Table B.7: Summary Statistics

	Mean	Std. Dev.	Min.	Max.	Obs.
Democracy, 2008	0.69	0.32	0.00	1.00	157
Democracy, 1966	0.44	0.38	0.00	1.00	117
Avg. democracy, 1966–2008	0.53	0.31	0.00	1.00	160
Corruption, 2008	3.44	1.18	0.00	6.00	136
Internal conflicts per year, 1966–2008	0.21	0.48	0.00	3.86	172
Coup attempts per year, 1966–2008	0.06	0.08	0.00	0.35	160
Purges per year, 1966–2008	0.06	0.13	0.00	1.12	172
Total revenue, 2000–2008 (log avg.)	−1.53	0.45	−3.05	−0.54	165
Tax revenue, 2000–2008 (log avg.)	−1.97	0.69	−5.03	−0.77	167
GDP, 2008 (log p.c.)	9.06	1.26	6.36	11.71	166
GDP, 1966 (log p.c.)	7.69	1.00	6.05	10.37	136
Non-Oil GDP, 2008 (log p.c.)	9.27	1.16	6.33	11.46	132
Non-Oil/Gas GDP, 2008 (log p.c.)	9.28	1.15	6.33	11.45	129
Non-Resource GDP, 2008 (log p.c.)	8.93	1.30	5.92	11.45	166
Manufacturing GDP, 2008 (log p.c.)	6.99	1.51	2.61	9.54	145
Population density, 2008 (log)	−2.77	1.34	−6.25	1.91	153
Executive constraints, 1950–1965	0.47	0.37	0.00	1.00	116
Oil production, 1966–2008 (log avg. p.c.)	−4.88	4.24	−9.03	4.45	172
Oil discovery, 1966–2003 (log avg. p.c.)	−9.03	3.24	−11.14	1.73	172
Oil reserves, 1966–2003 (log avg. p.c.)	−5.26	3.14	−7.30	4.69	172
Oil endowment (log p.c.)	−10.17	2.76	−11.93	−0.31	172
Oil quality	3.44	3.28	1.00	10.44	127
Convergent C-C mechanical area (log p.c.)	−8.36	2.97	−10.34	0.20	172
Convergent O-C thermal area (log p.c.)	−8.85	0.70	−8.99	−4.22	172
Convergent O-C mechanical area (log p.c.)	−9.62	3.69	−11.92	−1.06	172
Convergent O-O area (log p.c.)	−9.80	2.38	−10.66	−0.31	172
Divergent thermal area (log p.c.)	−6.51	4.91	−13.75	1.27	172
Wrench mechanical area (log p.c.)	−13.25	3.66	−14.94	−0.73	172
Divergent mechanical area (log p.c.)	−10.64	2.68	−12.10	−2.02	172
Convergent C-C thermo-mechanical area (log p.c.)	−8.52	0.92	−8.75	−2.91	172
Foreland area (log p.c.)	−7.07	2.93	−9.60	0.20	172
Intracratonic sag area (log p.c.)	−11.00	5.21	−14.70	−0.03	172
Passive margin area (log p.c.)	−8.78	5.19	−13.75	1.27	172
Convergent sag area (log p.c.)	−15.09	3.20	−16.14	−2.91	172
Post-rift sag area (log p.c.)	−10.18	3.56	−12.52	−0.73	172
Wrench area (log p.c.)	−13.25	3.66	−14.94	−0.73	172
Extensional area (log p.c.)	−9.90	2.07	−10.68	−1.60	172
Convergent wrench area (log p.c.)	−11.67	3.20	−13.12	−0.32	172
Fore-arc area (log p.c.)	−10.35	3.16	−11.92	−0.80	172
Rift area (log p.c.)	−10.64	2.68	−12.10	−2.02	172
Land area (log p.c.)	−3.23	1.58	−7.79	0.49	172
Coastline (log p.c.)	−9.35	2.99	−14.01	−3.17	172
Mountainous area (log p.c.)	−6.54	2.99	−11.21	−0.53	172
Tropical area (log p.c.)	−6.21	3.85	−10.47	−0.08	172
Good soil area (log p.c.)	−6.79	2.64	−11.49	−0.37	172

Notes. See Appendix B for variable definitions. Due to the presence of zero values, the 'log' transformation of the oil and geographic variables is actually a differentiable and monotonic transformation $h(w) = \log(w)$ for $w > w_0$ and $h(w) = \log(w_0) - 1 + w/w_0$ for $w \leq w_0$. This function was suggested by James Hamilton of UC San Diego. In practice w_0 is chosen for each variable as the minimum positive value observed in the sample.

Table B.8: *First-Stage Estimates for Optimal Sets of Basin Measures by Plate-Tectonic Environment and Primary Mechanism of Subsidence*

	Log Avg. Oil Production per capita, 1966–2008							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Convergent C-C mechanical	0.599***	0.592***	0.589***	0.584***	0.607***	0.610***	0.609***	0.604***
	(0.119)	(0.119)	(0.124)	(0.124)	(0.125)	(0.124)	(0.126)	(0.127)
Convergent O-C thermal		0.589***		0.371**	0.340*	0.285	0.267	0.271
		(0.175)		(0.168)	(0.176)	(0.185)	(0.194)	(0.194)
Convergent O-C mechanical			0.359***	0.337***	0.320***	0.329***	0.327***	0.329***
			(0.084)	(0.087)	(0.088)	(0.091)	(0.091)	(0.091)
Convergent O-O			−0.362**	−0.377***	−0.344**	−0.345**	−0.341**	−0.341**
			(0.139)	(0.142)	(0.149)	(0.151)	(0.152)	(0.153)
Divergent thermal					0.058	0.062	0.060	0.059
					(0.069)	(0.069)	(0.071)	(0.071)
Wrench mechanical						0.070	0.073	0.075
						(0.072)	(0.074)	(0.075)
Divergent mechanical							0.026	0.026
							(0.116)	(0.117)
Convergent C-C thermo-mechanical								0.059
								(0.327)
Observations	157	157	157	157	157	157	157	157
R^2	0.318	0.327	0.394	0.398	0.400	0.403	0.404	0.404
F statistic	25.3	17.6	18.9	16.5	14.0	12.6	10.8	9.4

Notes. See Tables B.3 and B.4 in the online appendix for basin variable definitions. See Appendix B for other variable definitions. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.9: First-Stage Estimates for Optimal Sets of Basin Measures by Final Component of Fugro Tellus Code

	Log Avg. Oil Production per capita, 1966–2008									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Foreland	0.576***	0.608***	0.613***	0.585***	0.677***	0.677***	0.701***	0.710***	0.700***	0.701***
	(0.142)	(0.143)	(0.139)	(0.140)	(0.144)	(0.142)	(0.141)	(0.139)	(0.142)	(0.142)
Intracratonic sag		0.213***	0.209***	0.201***	0.155**	0.153**	0.164**	0.159**	0.159**	0.164**
		(0.069)	(0.068)	(0.068)	(0.073)	(0.073)	(0.074)	(0.075)	(0.075)	(0.077)
Passive margin			0.091	0.102		0.080	0.086	0.085	0.086	0.080
			(0.076)	(0.076)		(0.076)	(0.077)	(0.076)	(0.077)	(0.077)
Convergent sag				0.199***	0.164***	0.174***	0.183***	0.190***	0.189***	0.184***
				(0.063)	(0.061)	(0.064)	(0.063)	(0.066)	(0.066)	(0.066)
Post-rift sag					0.231**	0.218**	0.233**	0.227**	0.228**	0.213**
					(0.101)	(0.100)	(0.101)	(0.102)	(0.103)	(0.106)
Wrench					0.119	0.119	0.122	0.122	0.122	0.129
					(0.079)	(0.078)	(0.078)	(0.078)	(0.079)	(0.079)
Extensional							−0.196	−0.182	−0.199	−0.224
							(0.173)	(0.172)	(0.180)	(0.188)
Convergent wrench								−0.049	−0.069	−0.061
								(0.118)	(0.110)	(0.109)
Fore-arc									0.077	0.077
									(0.107)	(0.105)
Rift										0.084
										(0.107)
Observations	157	157	157	157	157	157	157	157	157	157
R^2	0.315	0.357	0.364	0.383	0.409	0.415	0.420	0.421	0.422	0.424
F statistic	16.4	17.0	14.4	12.6	11.7	10.3	9.5	8.4	7.4	6.6

Notes. See Tables B.3 and B.5 in the online appendix for basin variable definitions. See Appendix B for other variable definitions. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.10: Testing for a Political Resource Curse (Controlling for Ethnic Fractionalisation)

	Democracy, 2008	Avg. Democracy, 1966–2008	Corruption, 2008	Internal Conflict, 1966–2008	Coup Attempts, 1966–2008	Purges, 1966–2008	Total Revenue, 2000–2008	Tax Revenue, 2000–2008
	Panel A: Ordinary Least Squares							
Oil production	-0.019^{***}	-0.014^{***}	0.030	0.011^{*}	0.001	0.003	0.035^{***}	-0.042^{***}
	(0.005)	(0.004)	(0.023)	(0.006)	(0.002)	(0.002)	(0.007)	(0.012)
Observations	156	159	135	171	159	171	164	166
R^2	0.439	0.537	0.336	0.216	0.207	0.093	0.510	0.479
	Panel B: Two-Stage Least Squares							
Oil production	-0.040^{**}	-0.041^{***}	0.133^{**}	0.003	0.002	−0.000	0.027	-0.165^{***}
	(0.018)	(0.015)	(0.060)	(0.019)	(0.003)	(0.005)	(0.017)	(0.041)
Observations	156	159	135	171	159	171	164	166
F statistic	22.4	24.6	21.3	28.0	24.6	28.0	26.2	24.4
A-R 95% CI	[−0.086, −0.009]	[−0.080, −0.014]	[0.023, 0.282]	[−0.038, 0.041]	[−0.004, 0.010]	[−0.011, 0.011]	[−0.009, 0.061]	[−0.279, −0.099]
Oil exog.	0.181	0.059	0.058	0.664	0.579	0.476	0.613	0.001

Notes. See Appendix B for variable definitions. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. The IV specifications use *Basin* as an instrument for oil production. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. The A-R 95% confidence interval is based on the Anderson and Rubin (1949) χ^2 test of the null hypothesis that the coefficients on the endogenous variables in the structural equation are jointly equal to zero. The A-R test is robust to the presence of weak instruments. The p-value of the test of the endogeneity of oil wealth is from the Hansen (1982) overidentification test of the null hypothesis that oil wealth is exogenous. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.11: Testing for an Economic Resource Course (Controlling for Ethnic Fractionalisation)

	GDP, 2008	Non-Oil GDP, 2008	Non-Oil/Gas GDP, 2008	Non-Resource GDP, 2008	Manufacturing GDP, 2008
	Panel A: Ordinary Least Squares				
Oil production	0.097^{***}	0.047^{***}	0.044^{***}	0.076^{***}	0.083^{***}
	(0.015)	(0.017)	(0.017)	(0.015)	(0.021)
Observations	165	131	128	165	144
R^2	0.674	0.637	0.621	0.667	0.618
	Panel B: Two-Stage Least Squares				
Oil production	0.091^{**}	0.059	0.052	0.070^{*}	−0.005
	(0.040)	(0.043)	(0.043)	(0.041)	(0.075)
Observations	165	131	128	165	144
F statistic	26.1	18.8	18.4	26.1	11.9
A-R 95% CI	[0.008, 0.177]	[−0.030, 0.156]	[−0.038, 0.148]	[−0.015, 0.157]	[−0.220, 0.139]
Oil exog.	0.878	0.773	0.846	0.883	0.186

Notes. See Appendix B for variable definitions. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. The IV specifications use *Basin* as an instrument for oil production. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. The A-R 95% confidence interval is based on the Anderson and Rubin (1949) χ^2 test of the null hypothesis that the coefficients on the endogenous variables in the structural equation are jointly equal to zero. The A-R test is robust to the presence of weak instruments. The p-value of the test of the endogeneity of oil wealth is from the Hansen (1982) overidentification test of the null hypothesis that oil wealth is exogenous. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.12: Testing for a Political Resource Curse: Basin vs. Endowment

	Democracy, 2008	Avg. Democracy, 1966–2008	Corruption, 2008	Internal Conflict, 1966–2008	Coup Attempts, 1966–2008	Purges, 1966–2008	Total Revenue, 2000–2008	Tax Revenue, 2000–2008
	Panel A: Ordinary Least Squares							
Oil production	-0.019^{***}	-0.014^{***}	0.032	0.012^{**}	0.001	0.003	0.032^{***}	-0.044^{***}
	(0.005)	(0.004)	(0.023)	(0.006)	(0.002)	(0.002)	(0.007)	(0.012)
Observations	157	160	136	172	160	172	165	167
R^2	0.441	0.536	0.334	0.204	0.203	0.093	0.463	0.471
	Panel B: 2SLS using Endowment							
Oil production	-0.026^{***}	-0.018^{***}	0.034	0.003	0.001	0.001	0.043^{***}	-0.080^{***}
	(0.005)	(0.005)	(0.024)	(0.009)	(0.002)	(0.002)	(0.008)	(0.017)
Observations	157	160	136	172	160	172	165	167
F statistic	326.8	350.4	286.1	409.6	350.4	409.6	401.2	395.2
	Panel C: 2SLS using Basin							
Oil production	-0.038^{**}	-0.039^{***}	0.136^{**}	0.007	0.002	-0.001	0.021	-0.163^{***}
	(0.017)	(0.015)	(0.060)	(0.018)	(0.003)	(0.005)	(0.016)	(0.039)
Observations	157	160	136	172	160	172	165	167
F statistic	25.3	26.7	23.2	31.4	26.7	31.4	29.3	27.3
Overident. p-value	0.418	0.084	0.063	0.752	0.547	0.708	0.129	0.003

Notes. See Appendix B for variable definitions. Panel A presents OLS estimates for comparison. Panel B presents IV estimates using initial oil endowment as an instrument for oil production. Panel C presents IV estimates using *Basin* as an instrument for oil production. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. The Hansen (1982) overidentification test p-value corresponds to the null hypothesis that both Endowment and *Basin* are valid instruments. Assuming that *Basin* is a valid instrument, rejection implies that Endowment is endogenous. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.13: Testing for an Economic Resource Course: Basin vs. Endowment

	GDP, 2008	Non-Oil GDP, 2008	Non-Oil/Gas GDP, 2008	Non-Resource GDP, 2008	Manufacturing GDP, 2008
	Panel A: Ordinary Least Squares				
Oil production	0.092***	0.043**	0.040**	0.071***	0.076***
	(0.015)	(0.017)	(0.017)	(0.016)	(0.021)
Observations	166	132	129	166	145
R^2	0.661	0.623	0.608	0.657	0.599
	Panel B: 2SLS using Endowment				
Oil production	0.114***	0.066***	0.061***	0.085***	0.070***
	(0.016)	(0.017)	(0.017)	(0.016)	(0.024)
Observations	166	132	129	166	145
F statistic	407.9	224.3	424.4	407.9	322.3
	Panel C: 2SLS using Basin				
Oil production	0.074*	0.045	0.039	0.054	−0.037
	(0.040)	(0.044)	(0.044)	(0.041)	(0.075)
Observations	166	132	129	166	145
F statistic	29.3	20.4	20.1	29.3	14.3
Overident. p-value	0.273	0.587	0.563	0.373	0.093

Notes. See Appendix B for variable definitions. Panel A presents OLS estimates for comparison. Panel B presents IV estimates using initial oil endowment as an instrument for oil production. Panel C presents IV estimates using *Basin* as an instrument for oil production. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. The Hansen (1982) overidentification test p-value corresponds to the null hypothesis that both Endowment and *Basin* are valid instruments. Assuming that *Basin* is a valid instrument, rejection implies that Endowment is endogenous. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.14: Political Resource Curse: Heterogeneous Effects by Initial Institutional Quality

	Democracy, 2008	Avg. Democracy, 1966–2008	Corruption, 2008	Internal Conflict, 1966–2008	Coup Attempts, 1966–2008	Purges, 1966–2008	Total Revenue, 2000–2008	Tax Revenue, 2000–2008
	Panel A: Countries with Relatively Strong Executive Constraints from 1950–1965							
Oil production	−0.027	−0.009	−0.054	0.010	−0.000	0.018	0.057**	−0.012
	(0.019)	(0.018)	(0.070)	(0.037)	(0.005)	(0.012)	(0.025)	(0.030)
Observations	53	54	51	54	54	54	52	53
F statistic	4.2	5.5	6.0	5.5	5.5	5.5	4.1	4.2
	Panel B: Countries with Relatively Weak Executive Constraints from 1950–1965							
Oil production	−0.044**	−0.022**	0.033	0.035**	0.007	0.013*	0.071***	−0.108**
	(0.017)	(0.010)	(0.045)	(0.017)	(0.006)	(0.007)	(0.022)	(0.047)
Observations	60	62	54	62	62	62	58	60
F statistic	10.2	12.7	10.6	12.7	12.7	12.7	11.1	12.4
	Panel C: Difference between Estimates							
Difference	0.017	0.013	−0.087	−0.025	−0.007	0.005	−0.014	0.096
	(0.054)	(0.029)	(0.134)	(0.063)	(0.010)	(0.025)	(0.072)	(0.079)
p-value	0.754	0.658	0.518	0.689	0.491	0.836	0.846	0.227

Notes. See Appendix B for variable definitions. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. The IV specifications use *Basin* as an instrument for oil production. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. Column titles refer to the sample of countries used in the regression. Countries in the 'Strong' subsample averaged strictly greater than three points out of seven on the executive constraints index, XCONST (Polity IV), from 1950–1965. Countries in the 'Weak' subsample averaged three points or fewer out of seven on XCONST from 1950–1965. A score of three points for XCONST indicates 'slight to moderate limitation on executive authority' (Polity IV). In practice 'Weak' indicates having an average XCONST score equal to or below the median average XCONST score from 1950–1965. The standard errors and p-values in Panel C are calculated by a bootstrap procedure based on 200 repetitions. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.15: Economic Resource Curse: Heterogeneous Effects by Initial Institutional Quality

	GDP, 2008	Non-Oil GDP, 2008	Non-Oil/Gas GDP, 2008	Non-Resource GDP, 2008	Manufacturing GDP, 2008
	Panel A: Countries with Relatively Strong Executive Constraints from 1950–1965				
Oil production	0.117	0.061	0.059	0.104	0.122
	(0.075)	(0.066)	(0.068)	(0.078)	(0.118)
Observations	51	46	45	51	50
F statistic	3.4	2.2	2.1	3.4	3.3
	Panel B: Countries with Relatively Weak Executive Constraints from 1950–1965				
Oil production	0.152***	0.109**	0.104*	0.132***	0.149***
	(0.040)	(0.055)	(0.053)	(0.045)	(0.057)
Observations	59	48	47	59	50
F statistic	12.0	6.9	7.0	12.0	6.8
	Panel C: Difference between Estimates				
Difference	−0.035	−0.048	−0.045	−0.029	−0.027
	(0.112)	(0.168)	(0.137)	(0.114)	(0.284)
p-value	0.753	0.774	0.745	0.800	0.925

Notes. See Appendix B for variable definitions. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. The IV specifications use *Basin* as an instrument for oil production. The F statistic is the Kleibergen and Paap (2006) rk statistic, which tests for weak identification and is robust to heteroskedasticity. Column titles refer to the sample of countries used in the regression. Countries in the 'Strong' subsample averaged strictly greater than three points out of seven on the executive constraints index, XCONST (Polity IV), from 1950–1965. Countries in the 'Weak' subsample averaged three points or fewer out of seven on XCONST from 1950–1965. A score of three points for XCONST indicates 'slight to moderate limitation on executive authority' (Polity IV). In practice 'Weak' indicates having an average XCONST score equal to or below the median average XCONST score from 1950–1965. The standard errors and p-values in Panel C are calculated by a bootstrap procedure based on 200 repetitions. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table B.16: Weak Executive Constraints and Basins: Tectonic-Subsidence Grouping

	Weak Executive Constraints, 1950–1965							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Convergent C-C mechanical	0.028							
	(0.019)							
Convergent O-C thermal		−0.047						
		(0.062)						
Convergent O-C mechanical			−0.018					
			(0.015)					
Convergent O-O				−0.036*				
				(0.022)				
Divergent thermal					−0.003			
					(0.014)			
Wrench mechanical						0.016		
						(0.012)		
Divergent mechanical							−0.003	
							(0.017)	
Convergent C-C thermo-mechanical								−0.020
								(0.052)
Observations	116	116	116	116	116	116	116	116
R^2	0.184	0.175	0.183	0.187	0.172	0.184	0.172	0.172

Notes. See Table B.1 for variable definitions. The variable 'weak constraints' is an indicator for having averaged three points or fewer out of seven on XCONST from 1950–1965. A score of three points for XCONST indicates 'slight to moderate limitation on executive authority' (Polity IV). In practice 'weak constraints' indicates having an average XCONST score equal to or below the median average XCONST score from 1950–1965. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

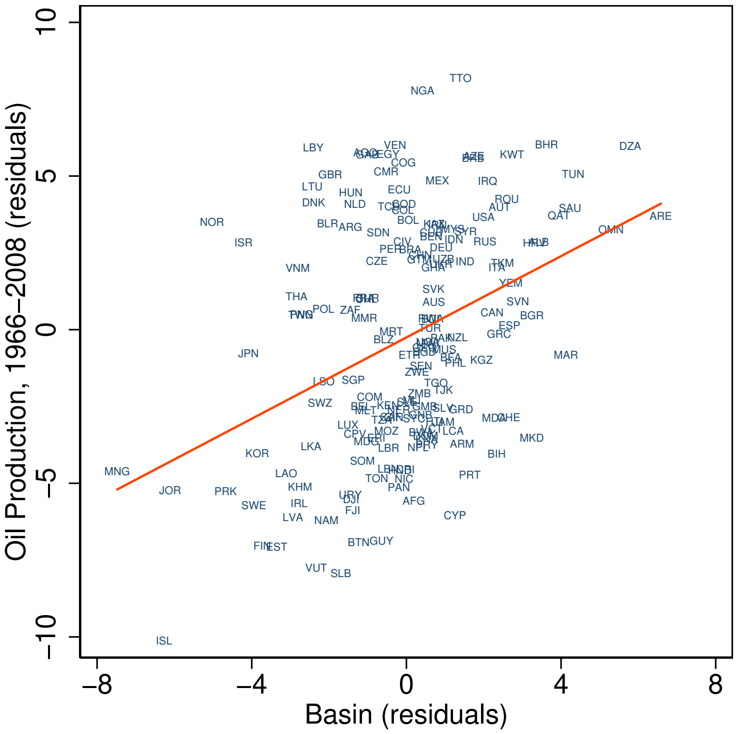
Table B.17: Weak Executive Constraints and Basins: Final Component of Code Grouping

	Weak Executive Constraints, 1950–1965									
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Foreland	0.001									
	(0.020)									
Intracratonic sag		0.003								
		(0.011)								
Passive margin			−0.013							
			(0.012)							
Convergent sag				0.000						
				(0.019)						
Post-rift sag					−0.004					
					(0.013)					
Wrench						0.016				
						(0.012)				
Extensional							−0.010			
							(0.024)			
Convergent wrench								−0.032**		
								(0.014)		
Fore-arc									−0.035**	
									(0.017)	
Rift										−0.003
										(0.017)
Observations	116	116	116	116	116	116	116	116	116	116
R^2	0.171	0.172	0.180	0.171	0.172	0.184	0.172	0.205	0.201	0.172

Notes. See Table B.1 for variable definitions. The variable 'weak constraints' is an indicator for having averaged three points or fewer out of seven on XCONST from 1950–1965. A score of three points for XCONST indicates 'slight to moderate limitation on executive authority' (Polity IV). In practice 'weak constraints' indicates having an average XCONST score equal to or below the median average XCONST score from 1950–1965. All specifications include geographic controls (land area, coastline, and mountainous area), climatic controls (tropical area and good soil area), and region fixed effects. Robust standard errors are in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

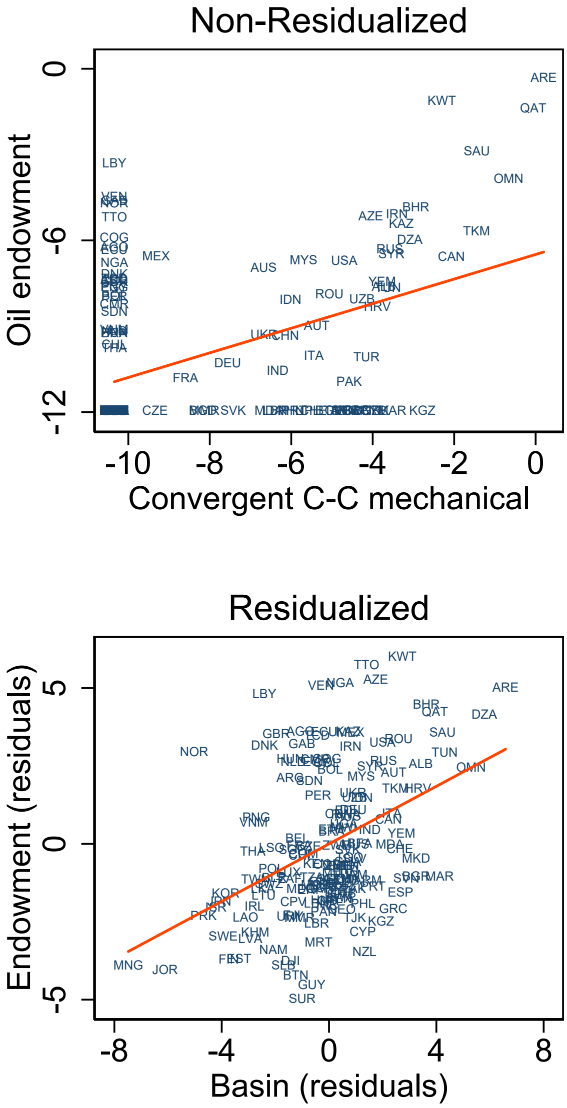
C Figures

Figure C.1: First Stage



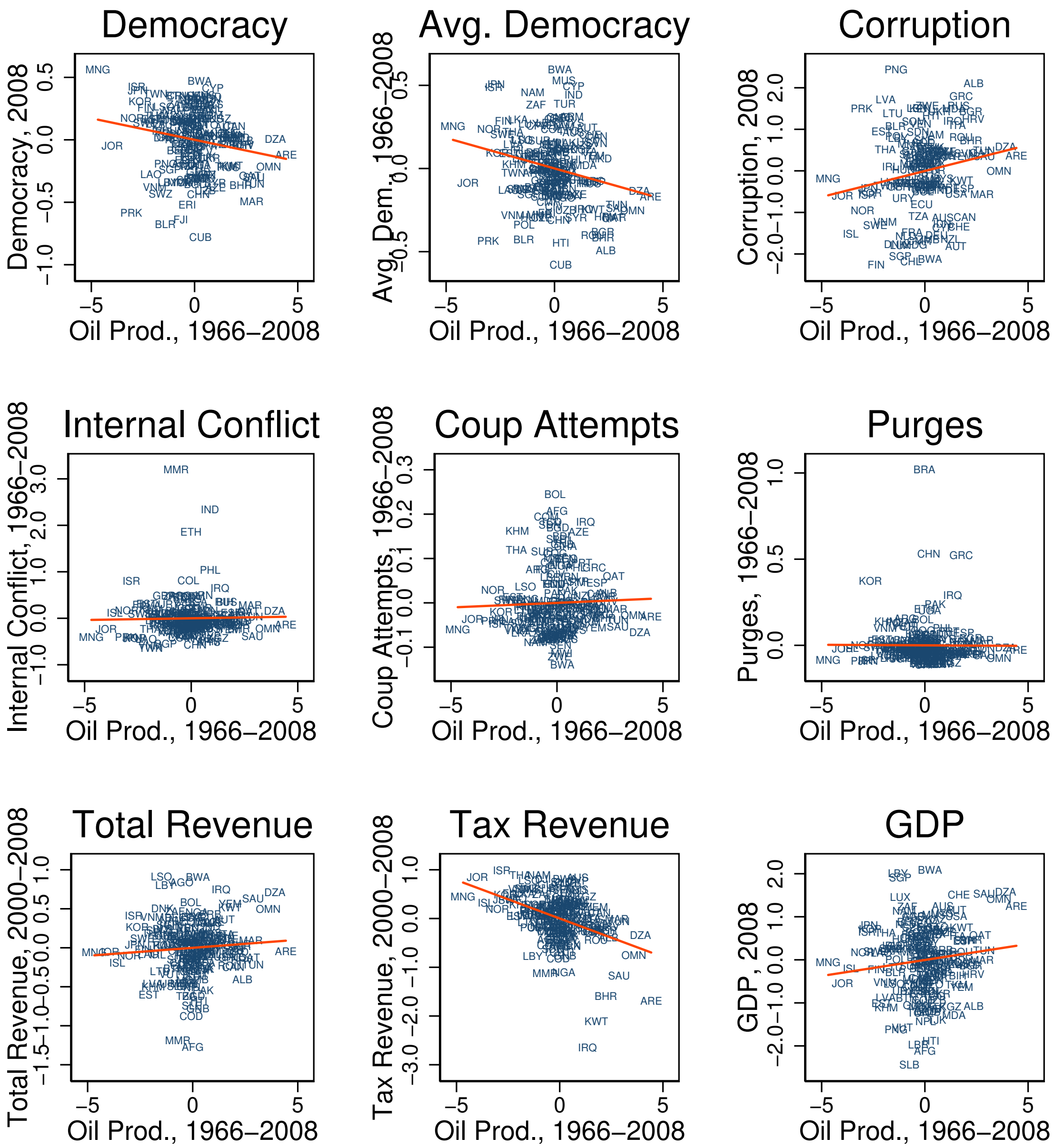
Notes. The figure plots oil production residuals against the residuals from *Basin*, where the residuals are obtained from separate regressions on the full set of geographic and climatic controls and region dummies.

Figure C.2: Endowment and Basin



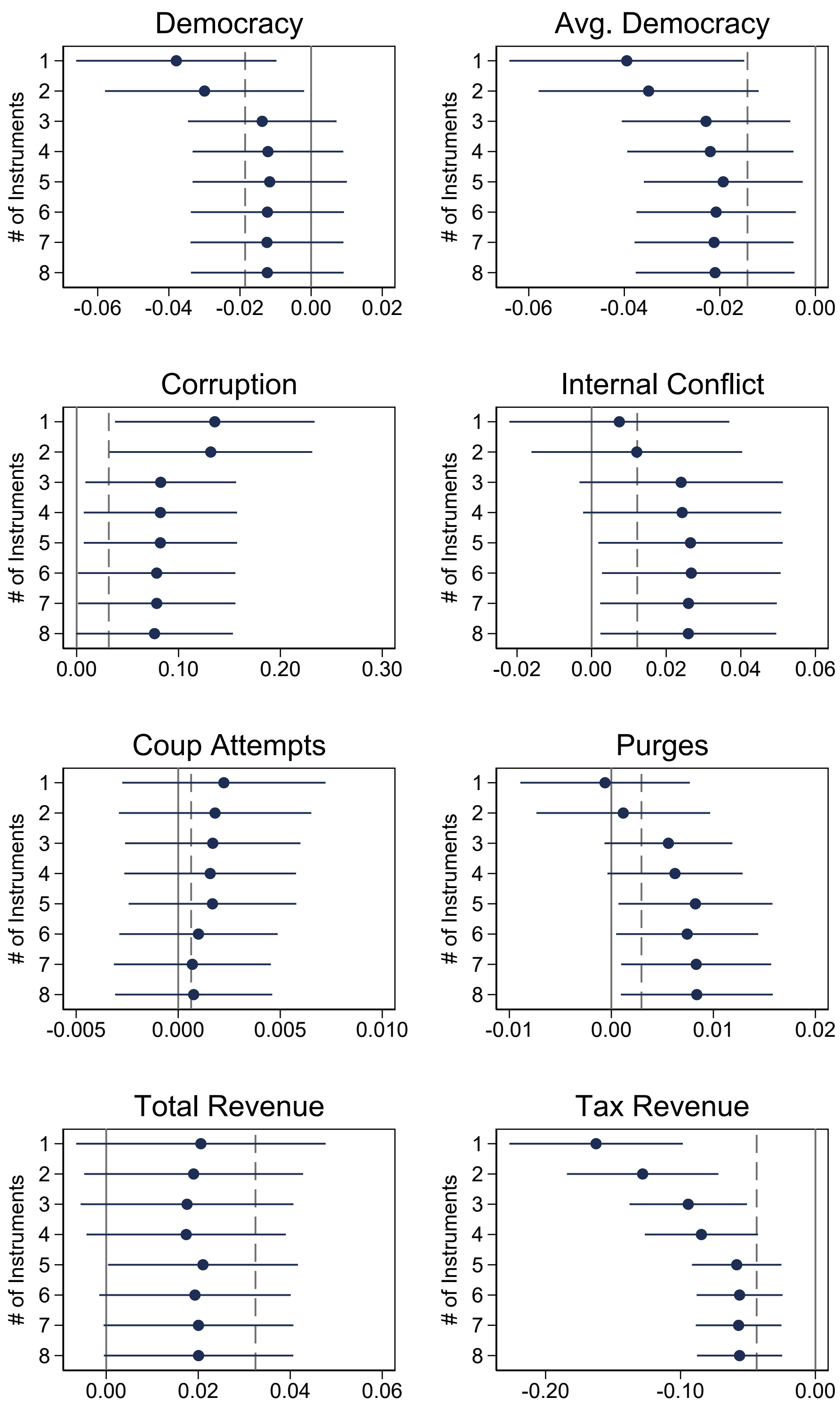
Notes. The figure plots oil endowment against *Basin*. The first graph is a raw scatterplot where the residuals are obtained from separate regressions on the full set of geographic and climatic controls and region dummies.

Figure C.3: Second Stage



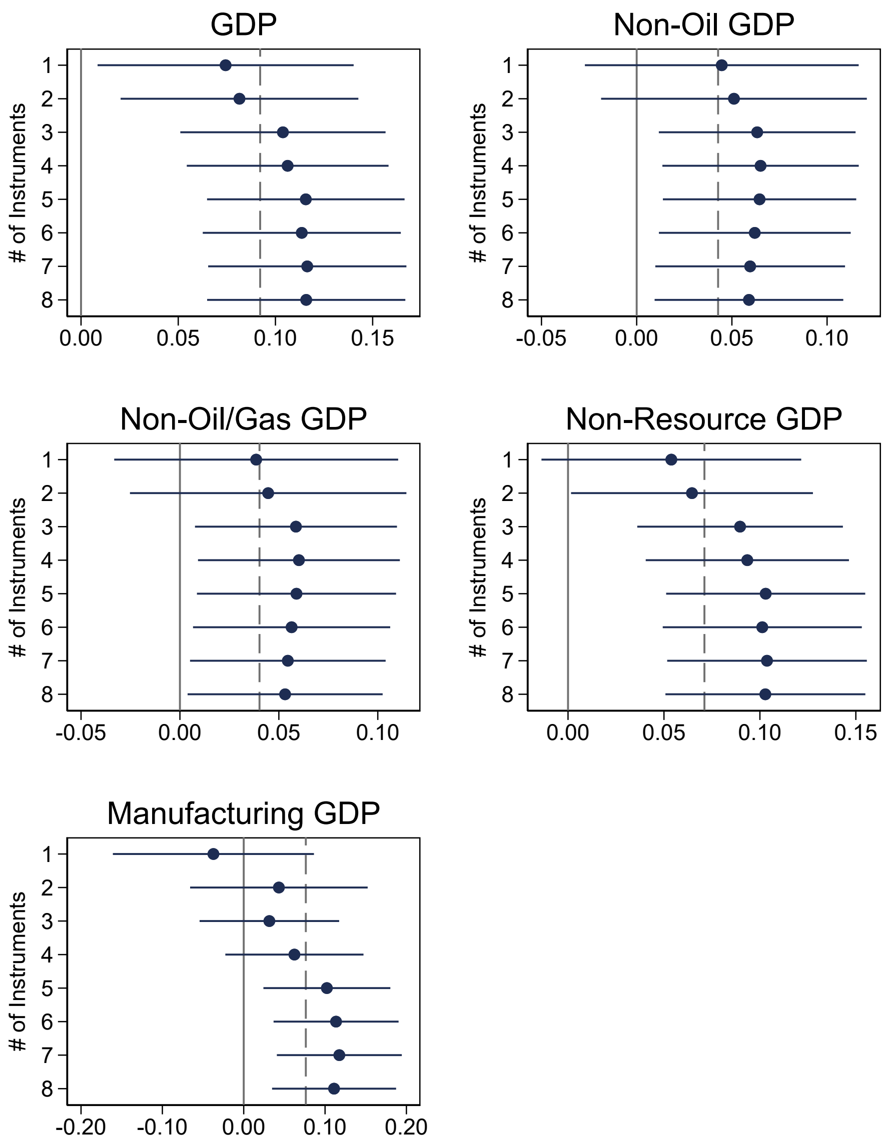
Notes. The figures plot outcome residuals against Oil Production predicted residuals. Each outcome residual is obtained by regressing the outcome variable on the full set of geographic and climatic controls and region dummies. The Oil Production predicted residuals are obtained by regressing the predicted values of Oil Production from the first stage on the full set of geographic and climatic controls and region dummies.

Figure C.4: 2SLS Estimates by Size of Instrument Set, Tectonic-Subsidence Grouping



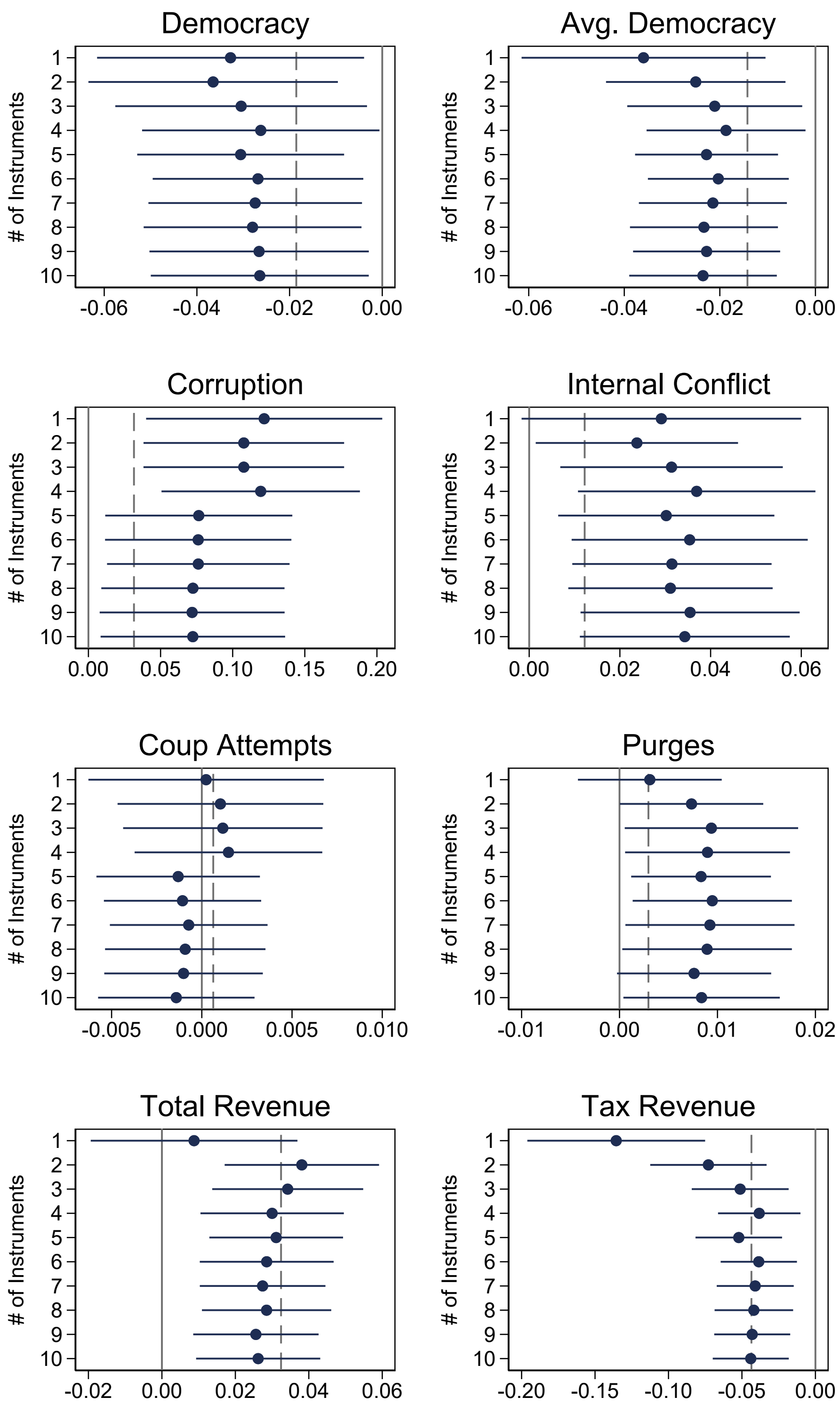
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.5: 2SLS Estimates by Size of Instrument Set, Tectonic-Subsidence Grouping



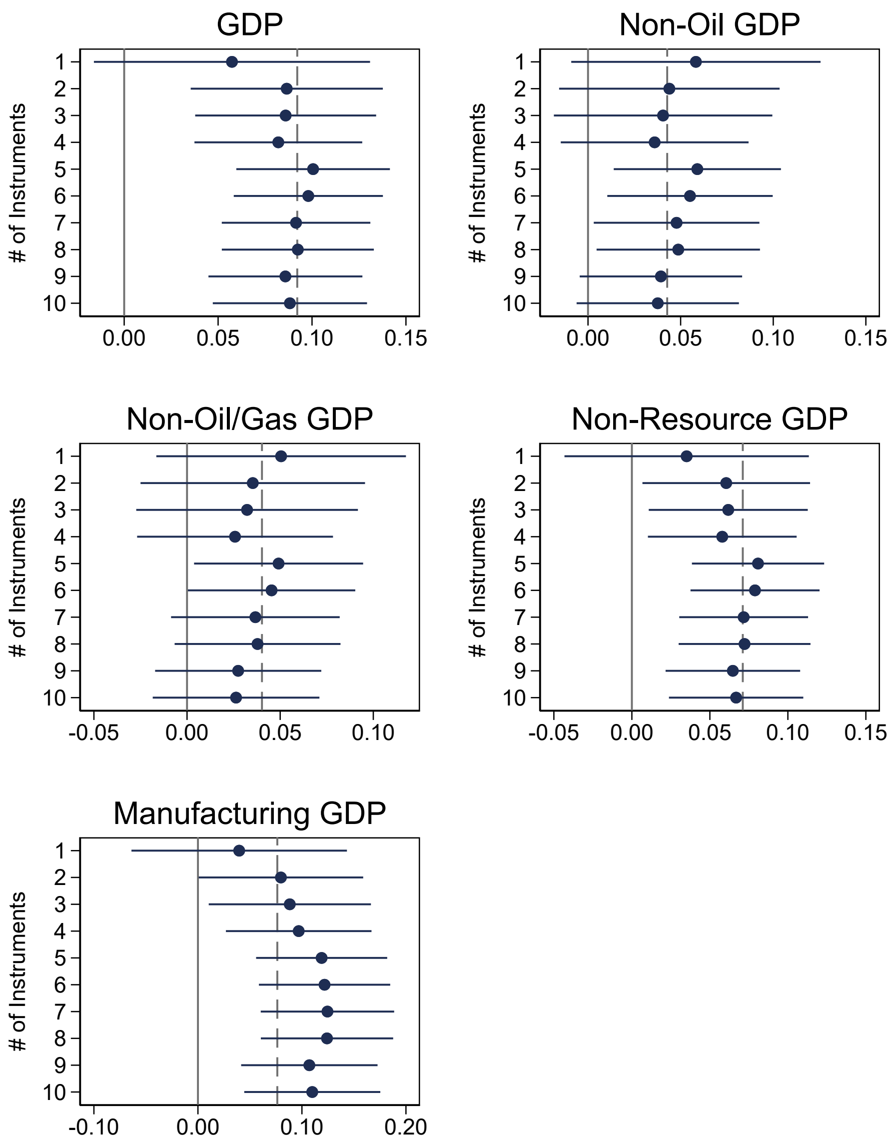
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.6: 2SLS Estimates by Size of Instrument Set, Final Component of Code Grouping



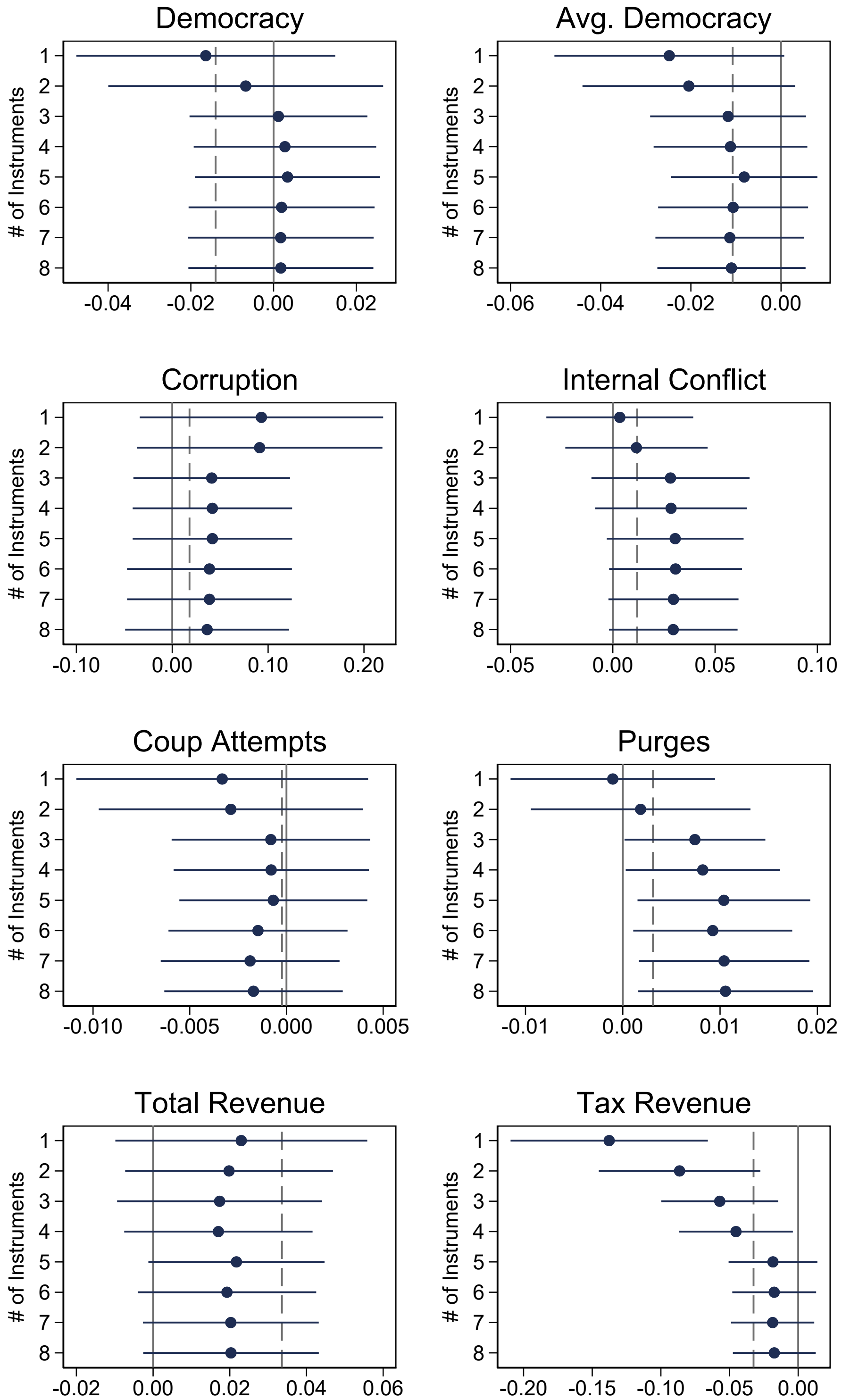
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.7: 2SLS Estimates by Size of Instrument Set, Final Component of Code Grouping



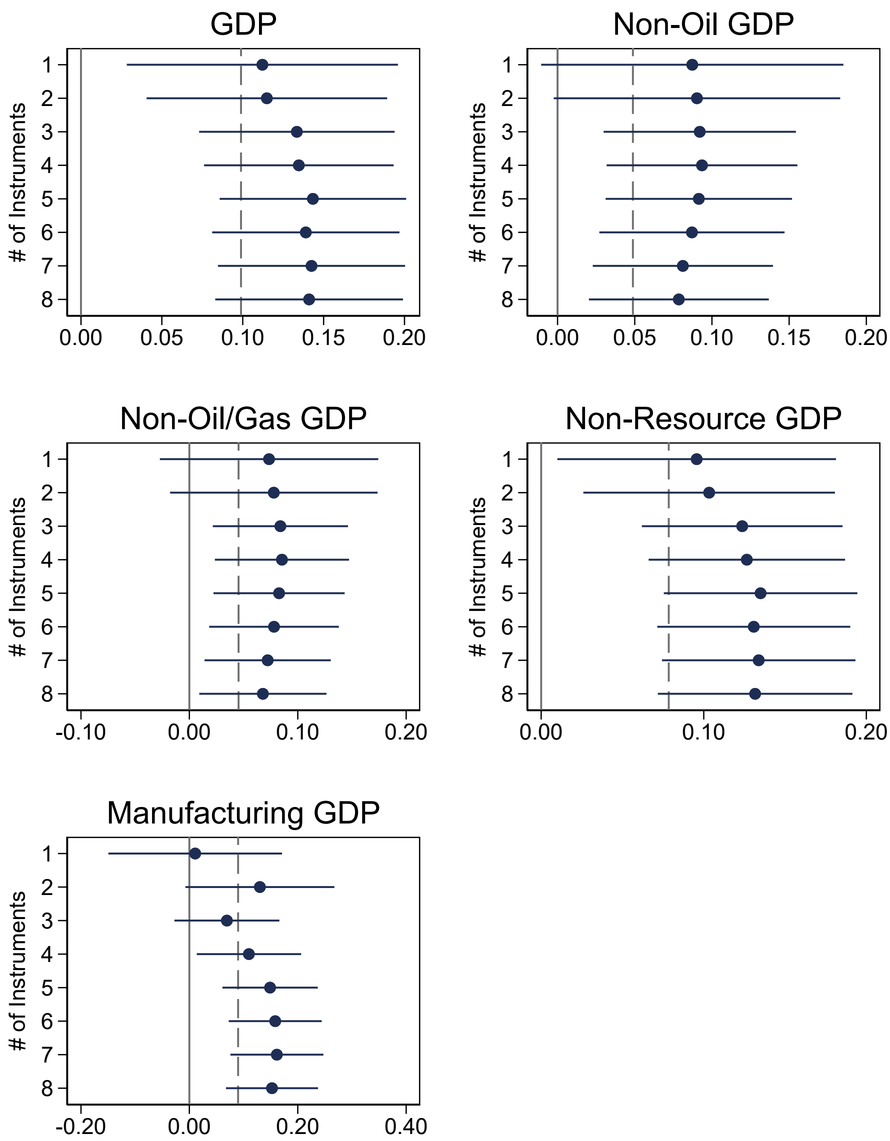
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.8: 2SLS Estimates by Size of Instrument Set, Tectonic-Subsidence Grouping (Controlling for Percentage Muslim in 1950)



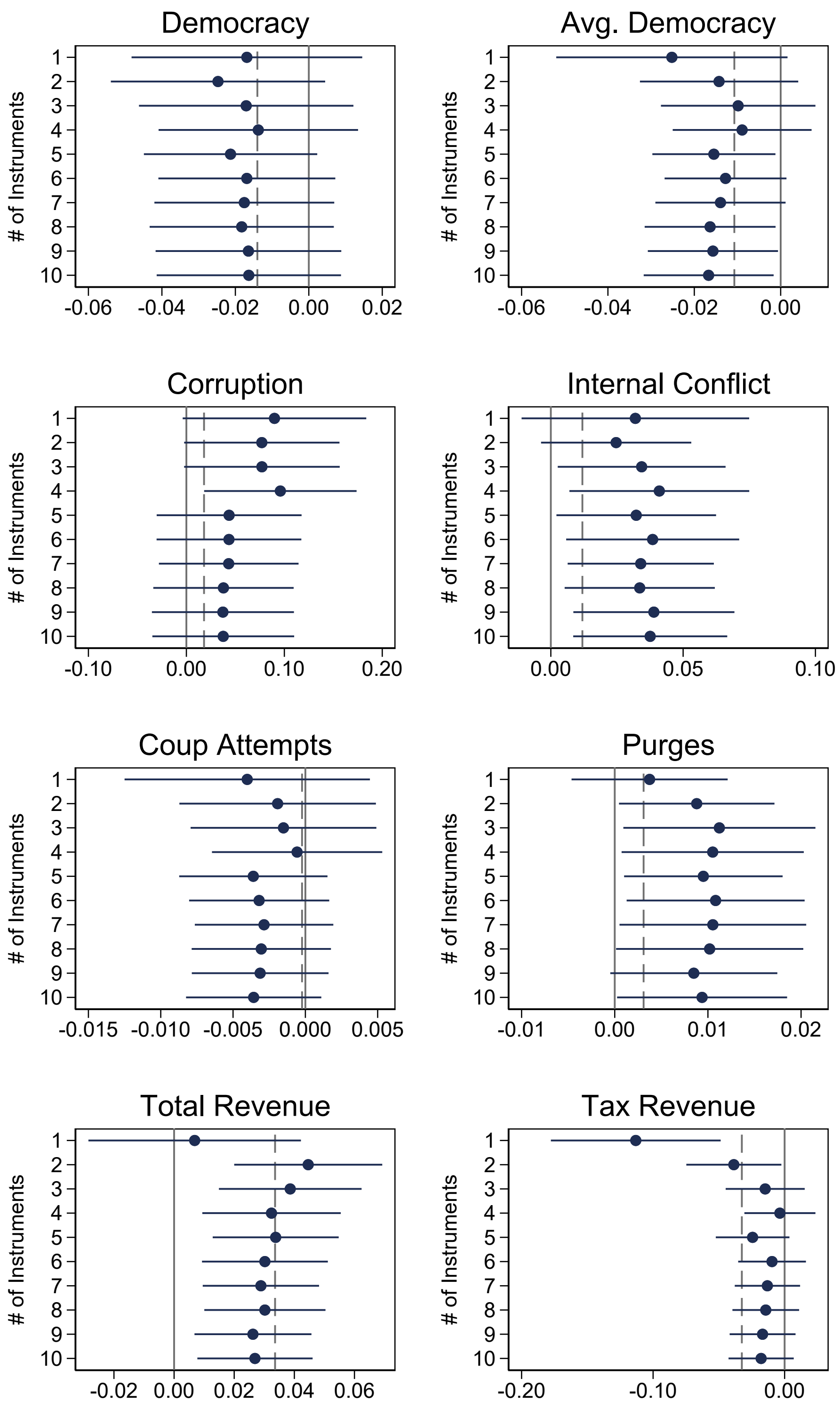
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.9: 2SLS Estimates by Size of Instrument Set, Tectonic-Subsidence Grouping (Controlling for Percentage Muslim in 1950)



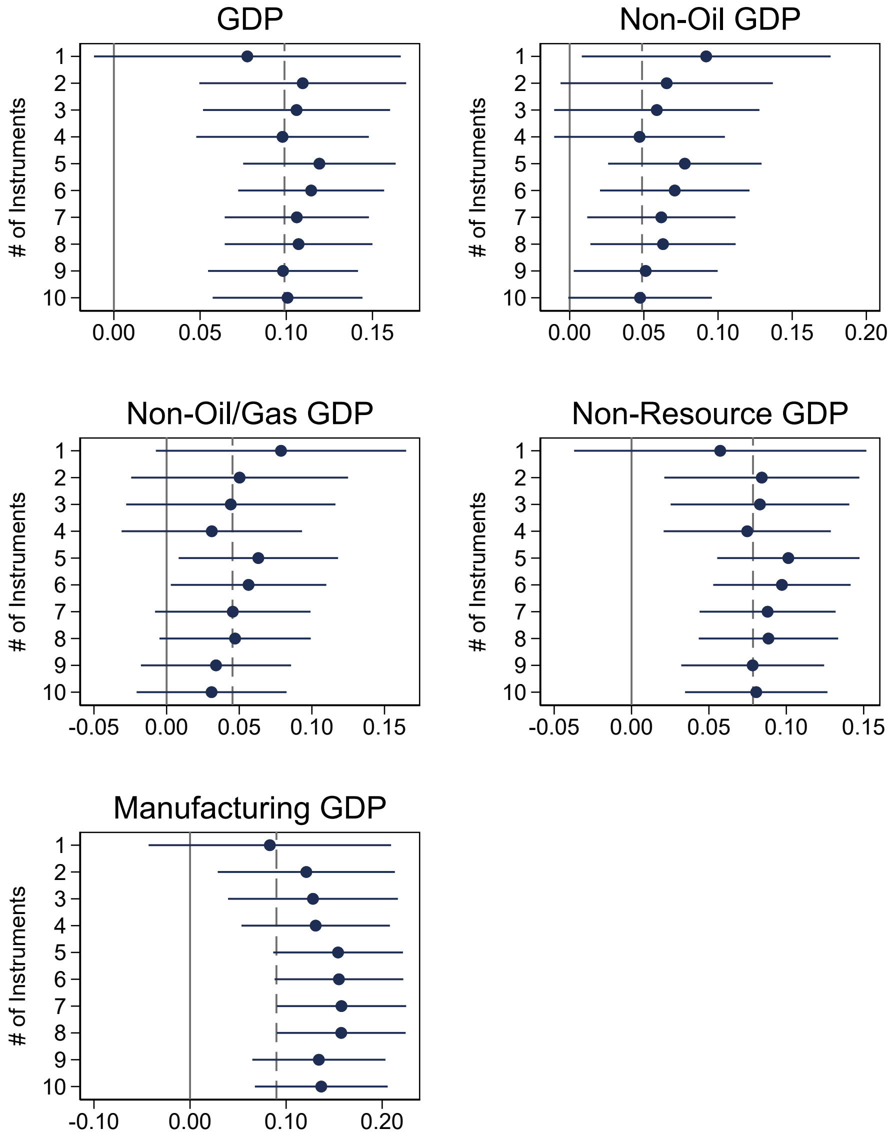
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.10: 2SLS Estimates by Size of Instrument Set, Final Component of Code Grouping (Controlling for Percentage Muslim in 1950)



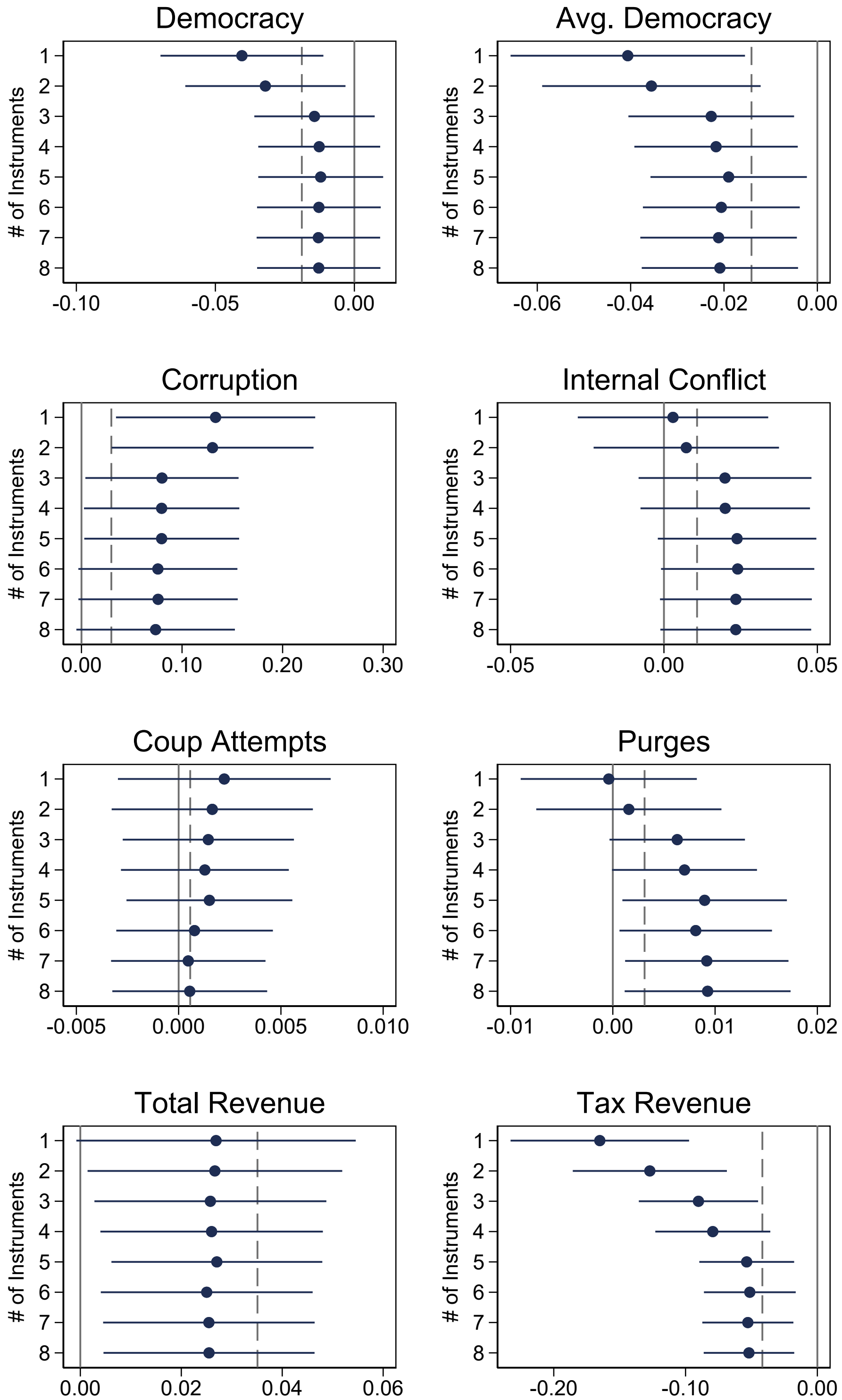
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.11: 2SLS Estimates by Size of Instrument Set, Final Component of Code Grouping (Controlling for Percentage Muslim in 1950)



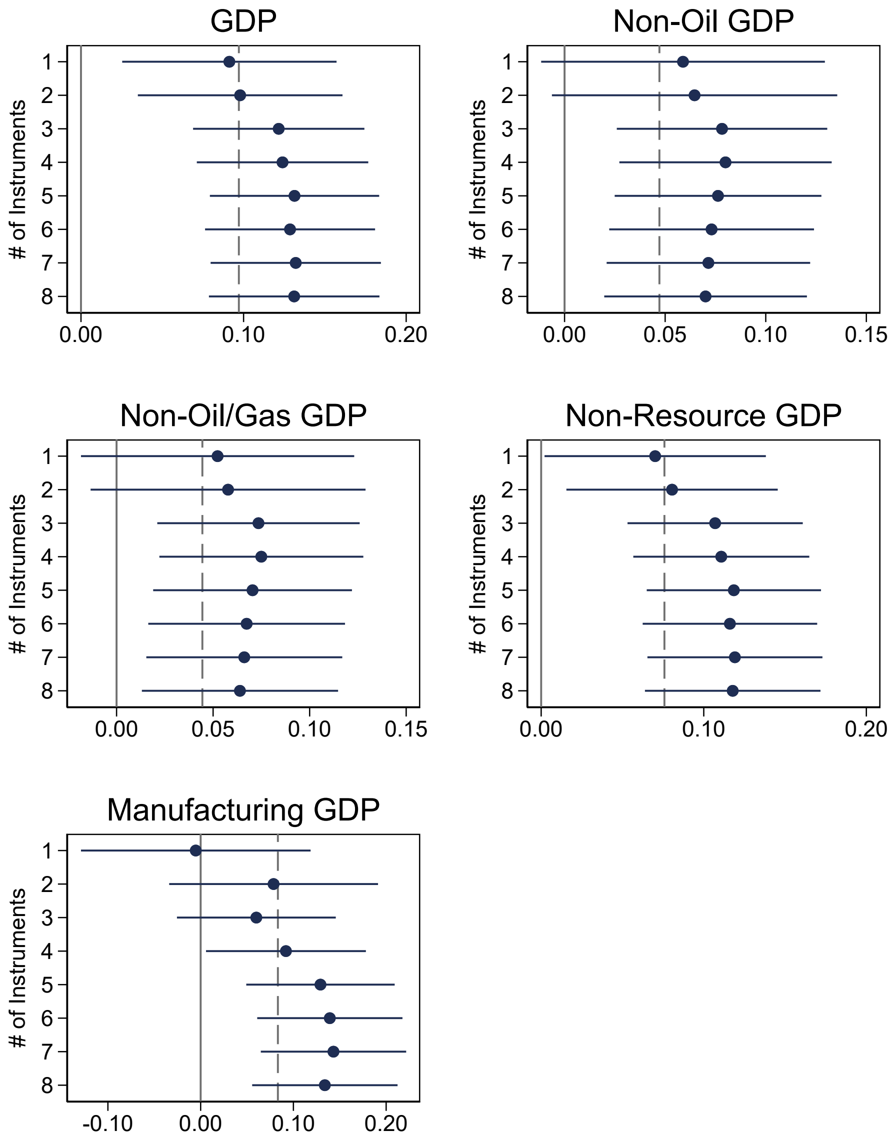
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.12: 2SLS Estimates by Size of Instrument Set, Tectonic-Subsidence Grouping (Controlling for Ethnic Fractionalisation)



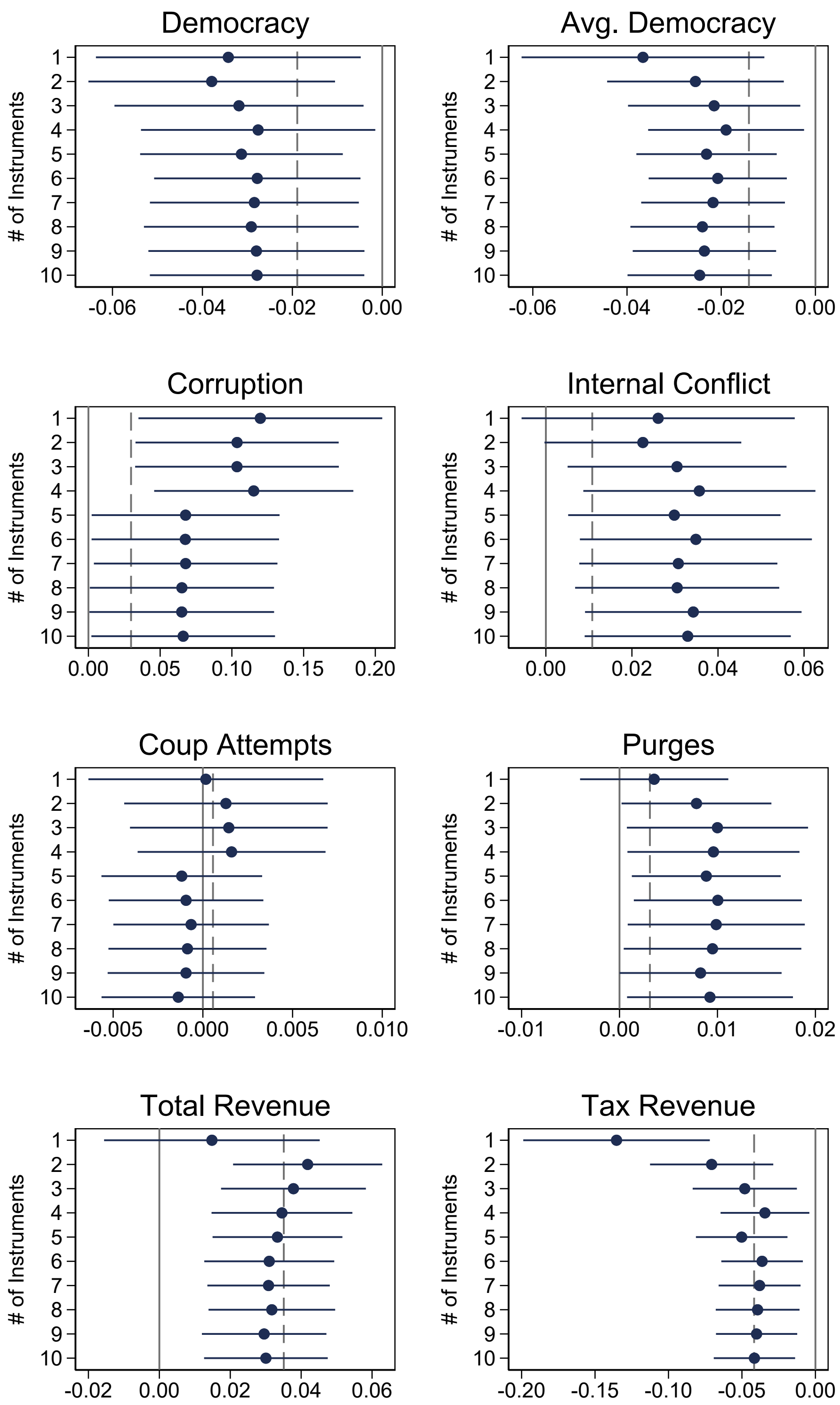
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.13: 2SLS Estimates by Size of Instrument Set, Tectonic-Subsidence Grouping (Controlling for Ethnic Fractionalisation)



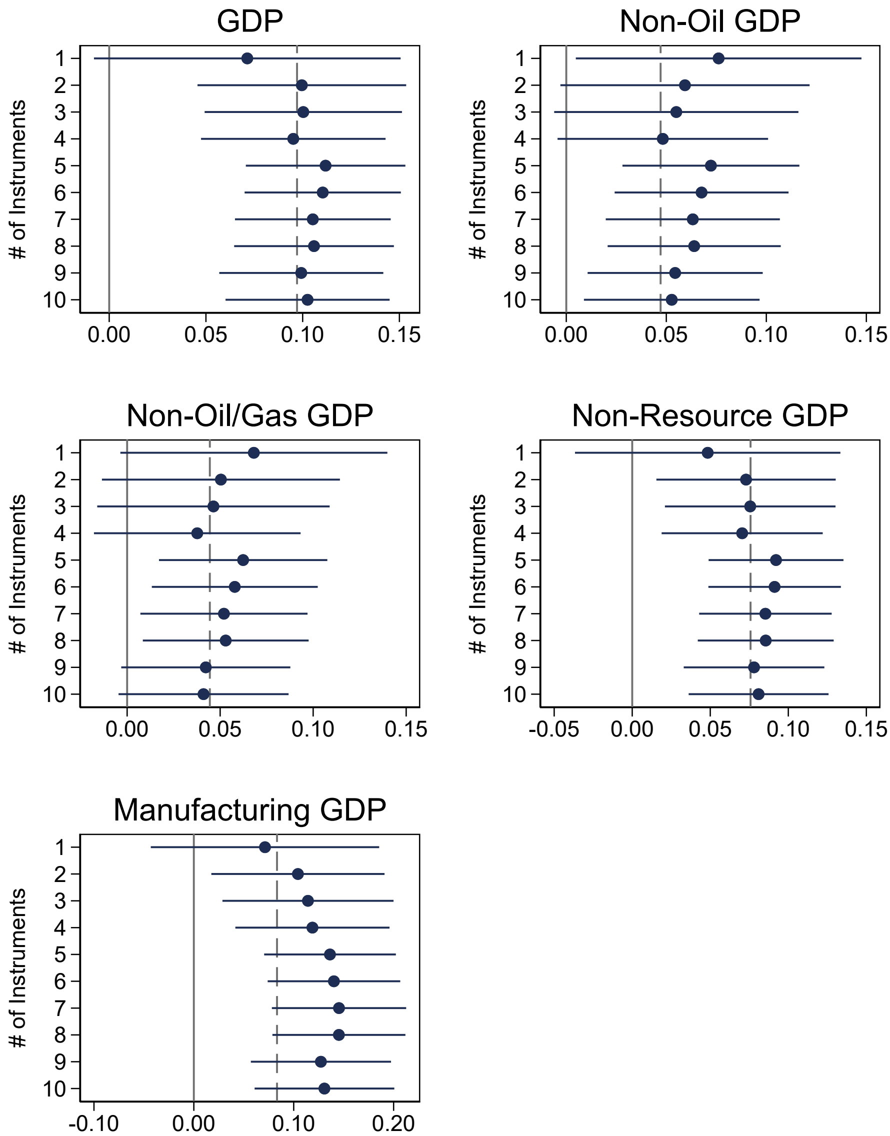
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.14: 2SLS Estimates by Size of Instrument Set, Final Component of Code Grouping (Controlling for Ethnic Fractionalisation)



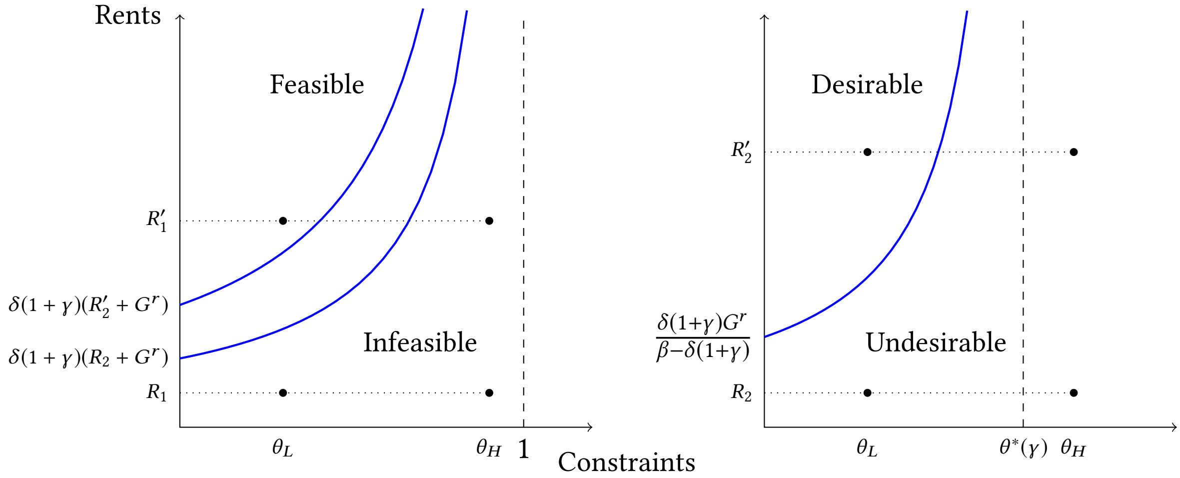
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.15: 2SLS Estimates by Size of Instrument Set, Final Component of Code Grouping (Controlling for Ethnic Fractionalisation)



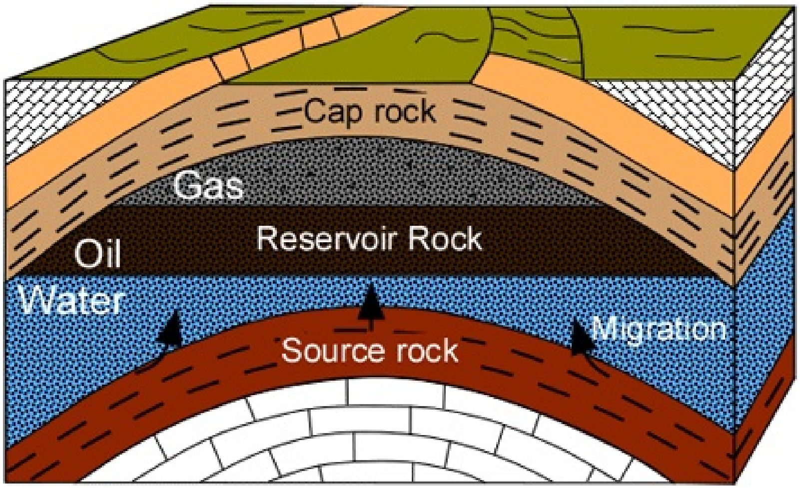
Notes. This figure plots point estimates and 90-percent confidence intervals for the coefficient on oil production, using optimal instrument sets of varying sizes. The grey, dashed line marks the value of the OLS estimate.

Figure C.16: Suppression Decision



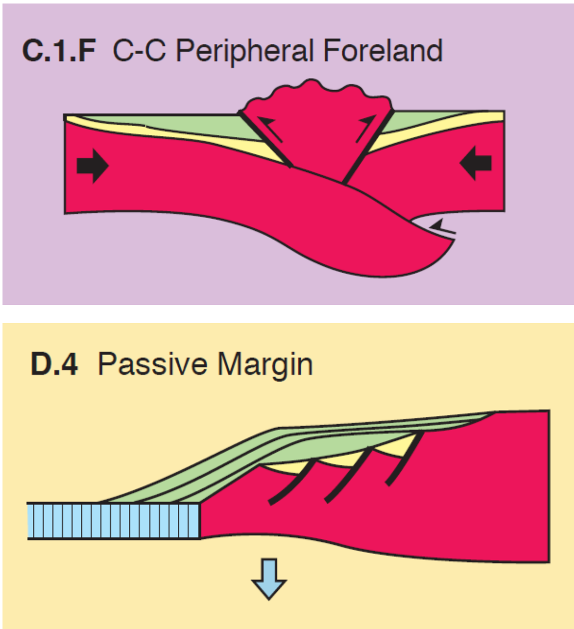
Notes. The figure shows the effect of a resource boom on the decision to suppress democracy in two different countries: one with weak executive constraints, θ_L, and the other with strong executive constraints, θ_H. In both countries period-one rents increase from R_1 to R_1', and period-two rents increase from R_2 to R_2'. The resource boom is balanced from the perspective of the country with weak constraints. Democracy is repressed if and only if (θ, R_1') lies above the blue line in the first graph (feasibility) and (θ, R_2') lies above the blue line in the second graph (desirability). Note that the increase in R_2 causes the blue line in the feasibility graph to shift upward, because it raises the reservation bribe of the rich group. In the country with weak constraints, the resource boom leads to repression, while the country with strong constraints transitions to democracy.

Figure C.17: Petroleum System



Source. Petrolia Haldimand Project.

Figure C.18: Peripheral Foreland and Passive Margin Basins

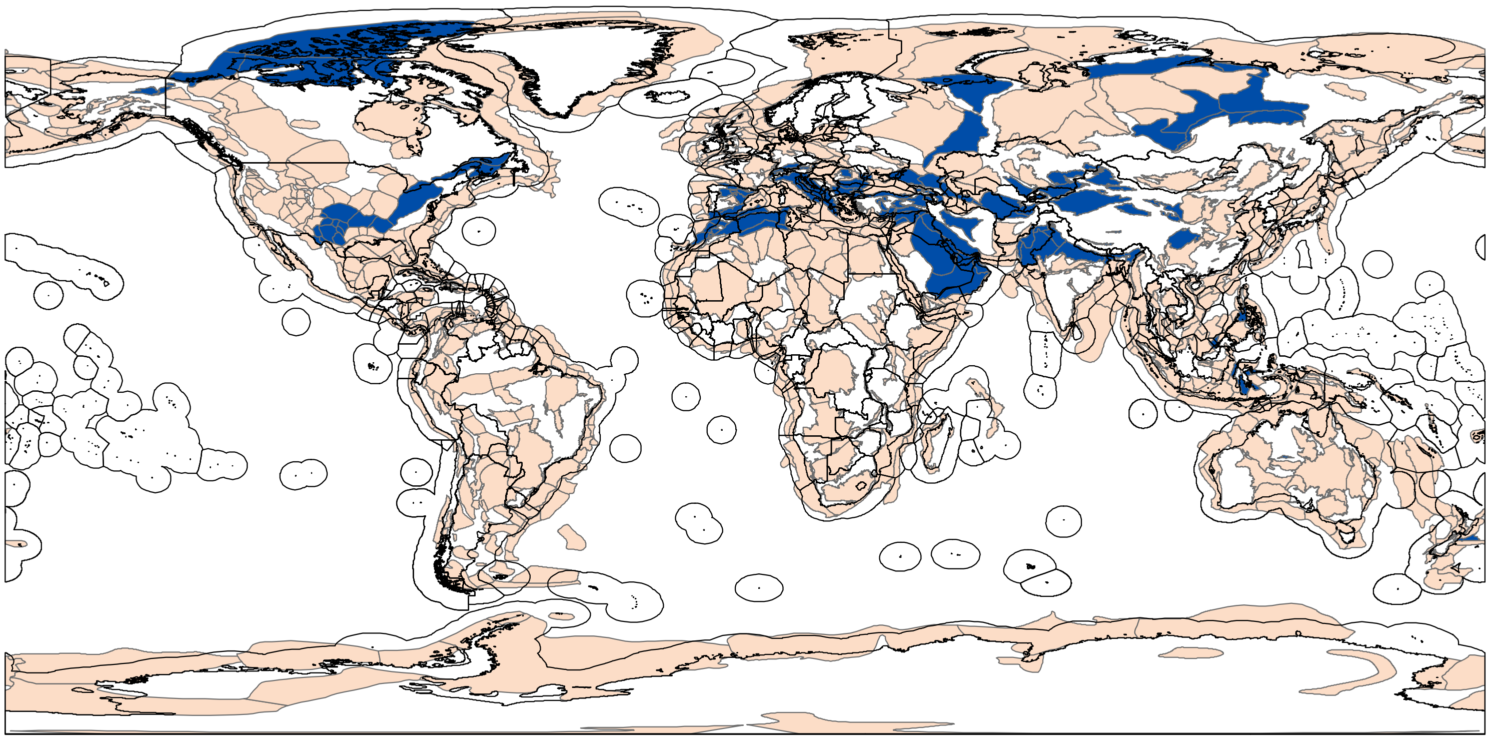


Source. Fugro Robertson, Ltd. (2013).
Notes. The tan region is old sediments, and the light blue-green region is newer sediments.

D Basin Maps

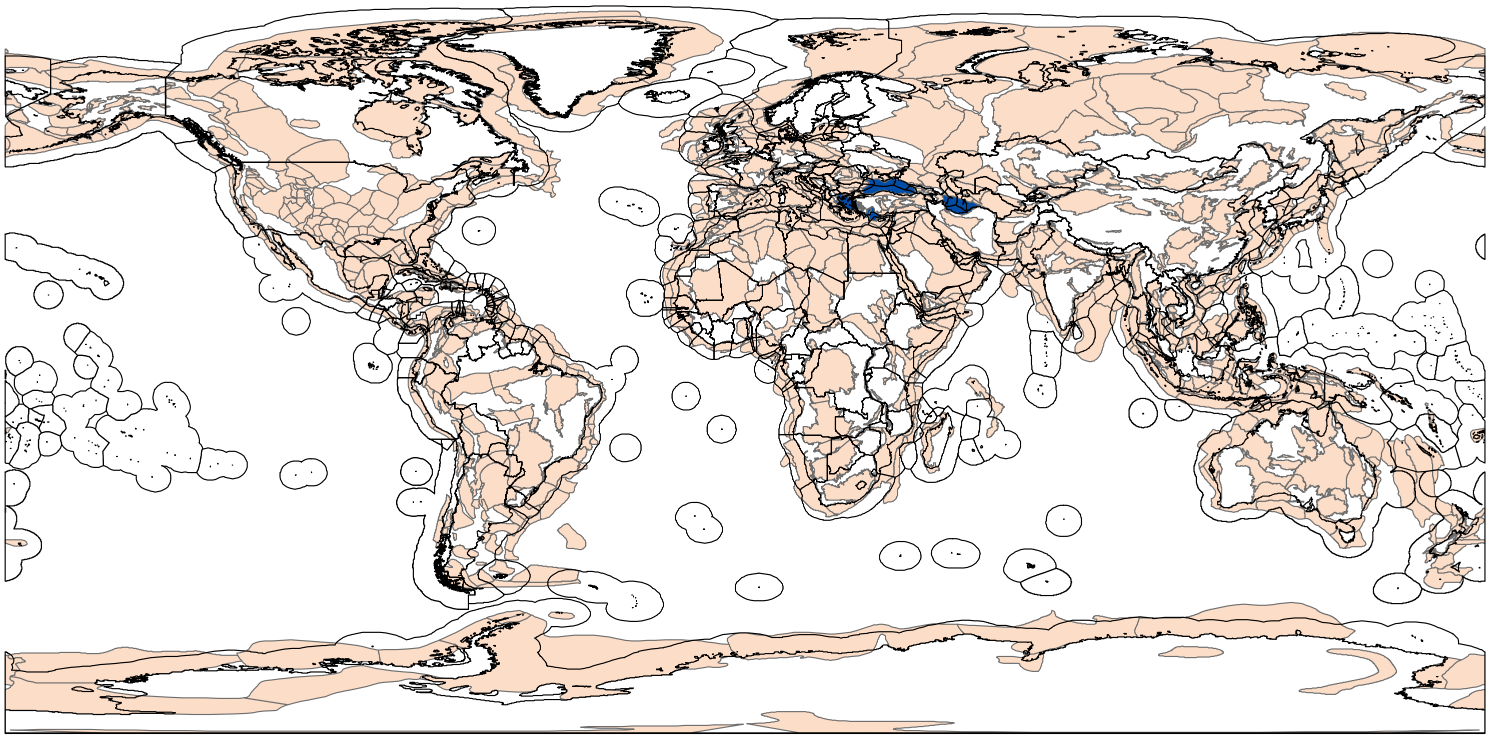
D.1 Basins Grouped by Plate-Tectonic Environment and Primary Subsidence Mechanism

Figure D.1: Basins: Convergent Continent-Continent Tectonics, Mechanical Subsidence



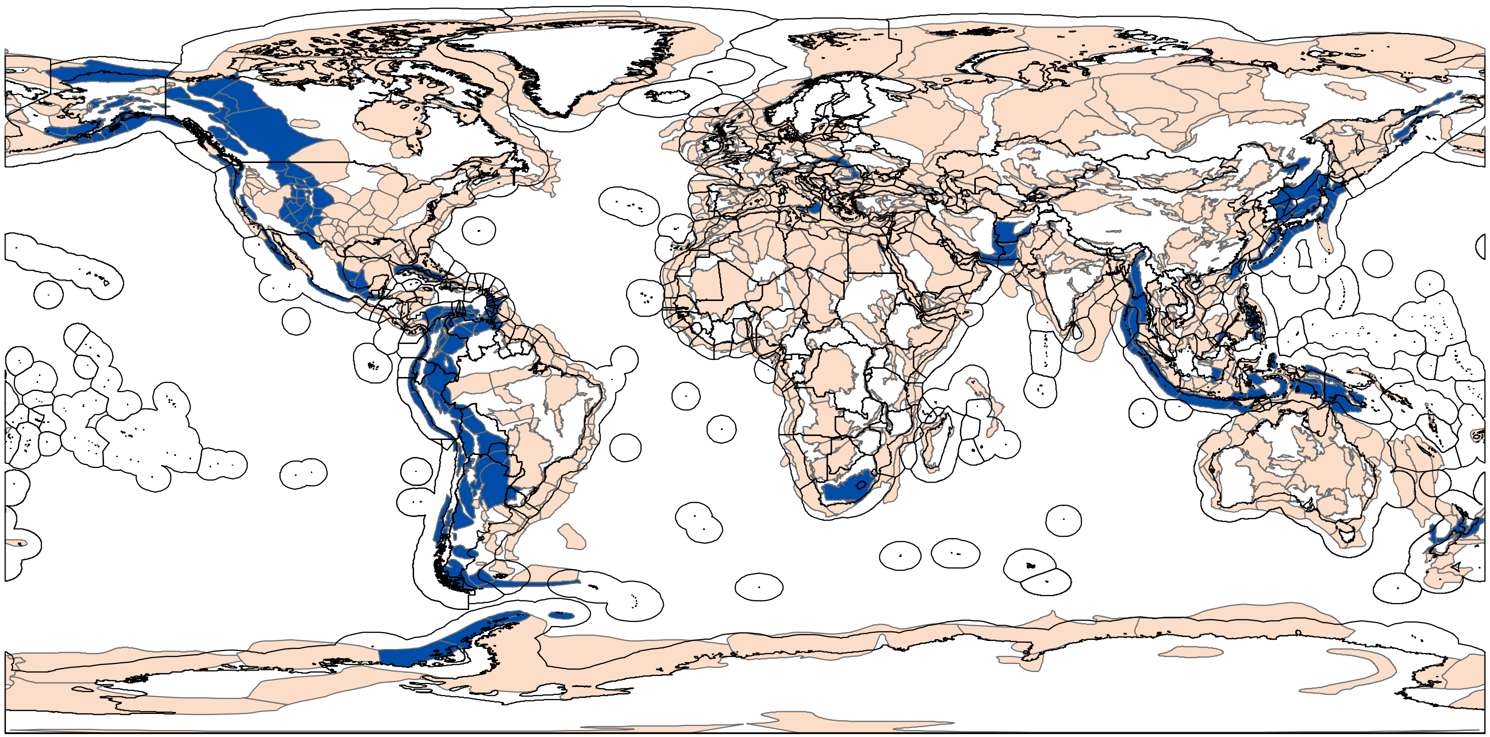
Source. Fugro Robertson, Ltd. (2013).

Figure D.2: Basins: Convergent Continent-Continent Tectonics, Thermo-Mechanical Subsidence



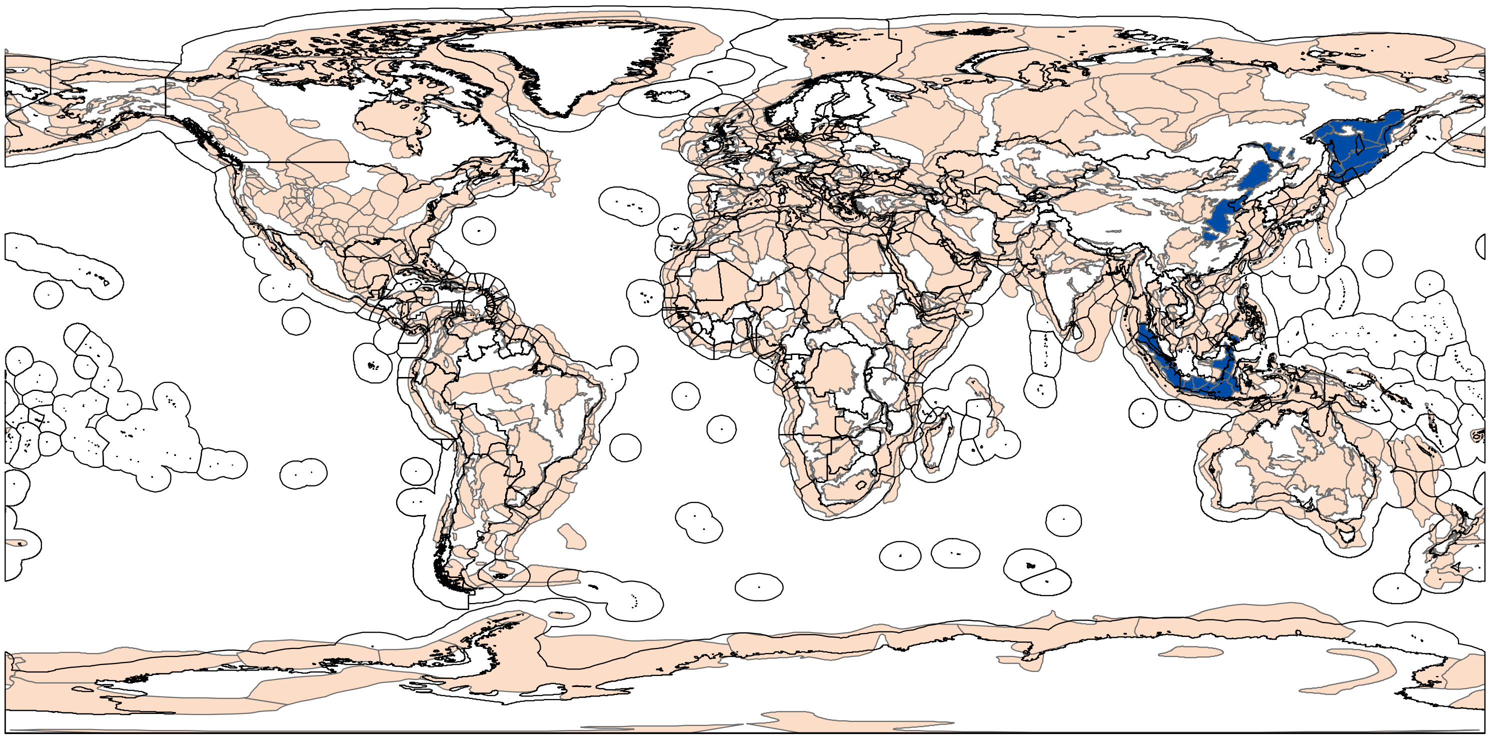
Source. Fugro Robertson, Ltd. (2013).

Figure D.3: Basins: Convergent Ocean-Continent Tectonics, Mechanical Subsidence



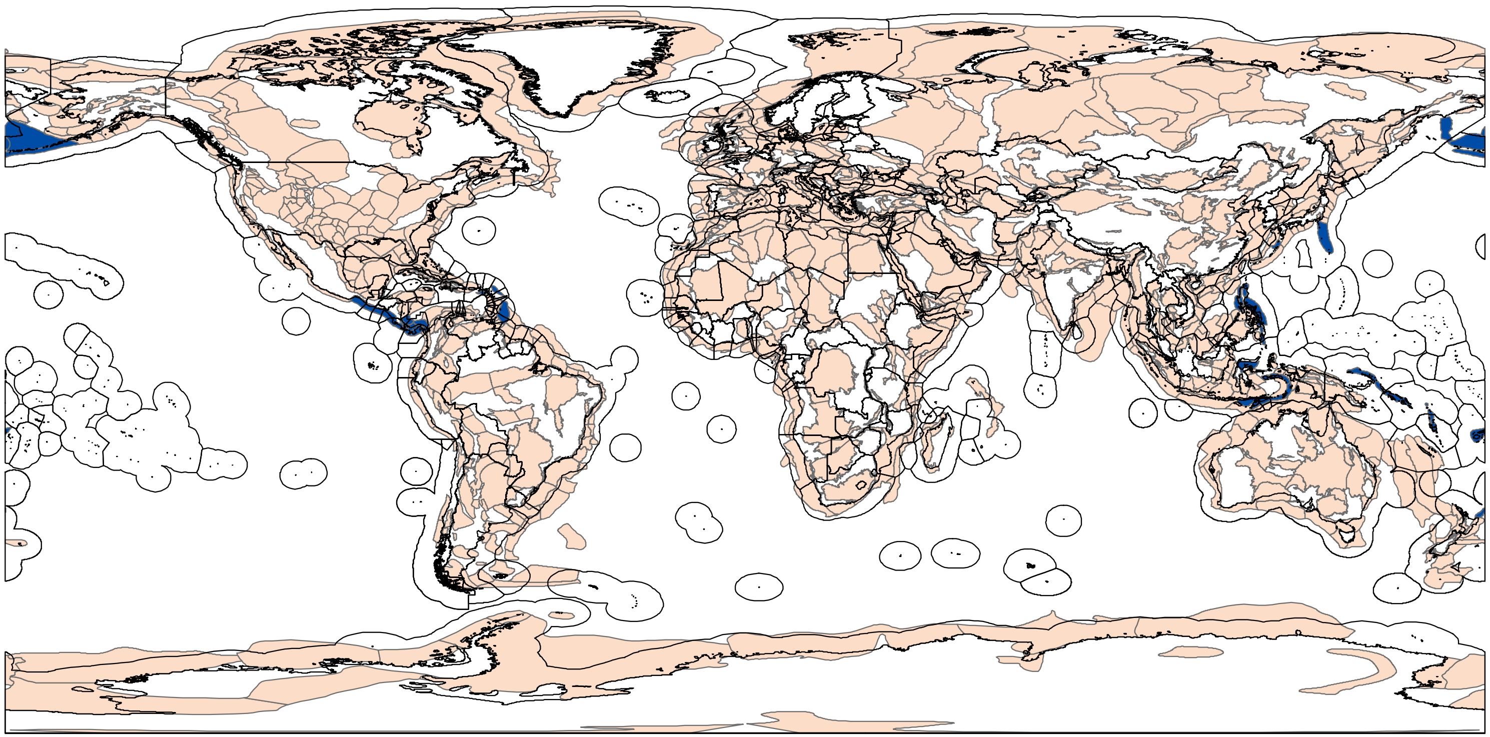
Source. Fugro Robertson, Ltd. (2013).

Figure D.4: Basins: Convergent Ocean-Continent Tectonics, Thermal Subsidence



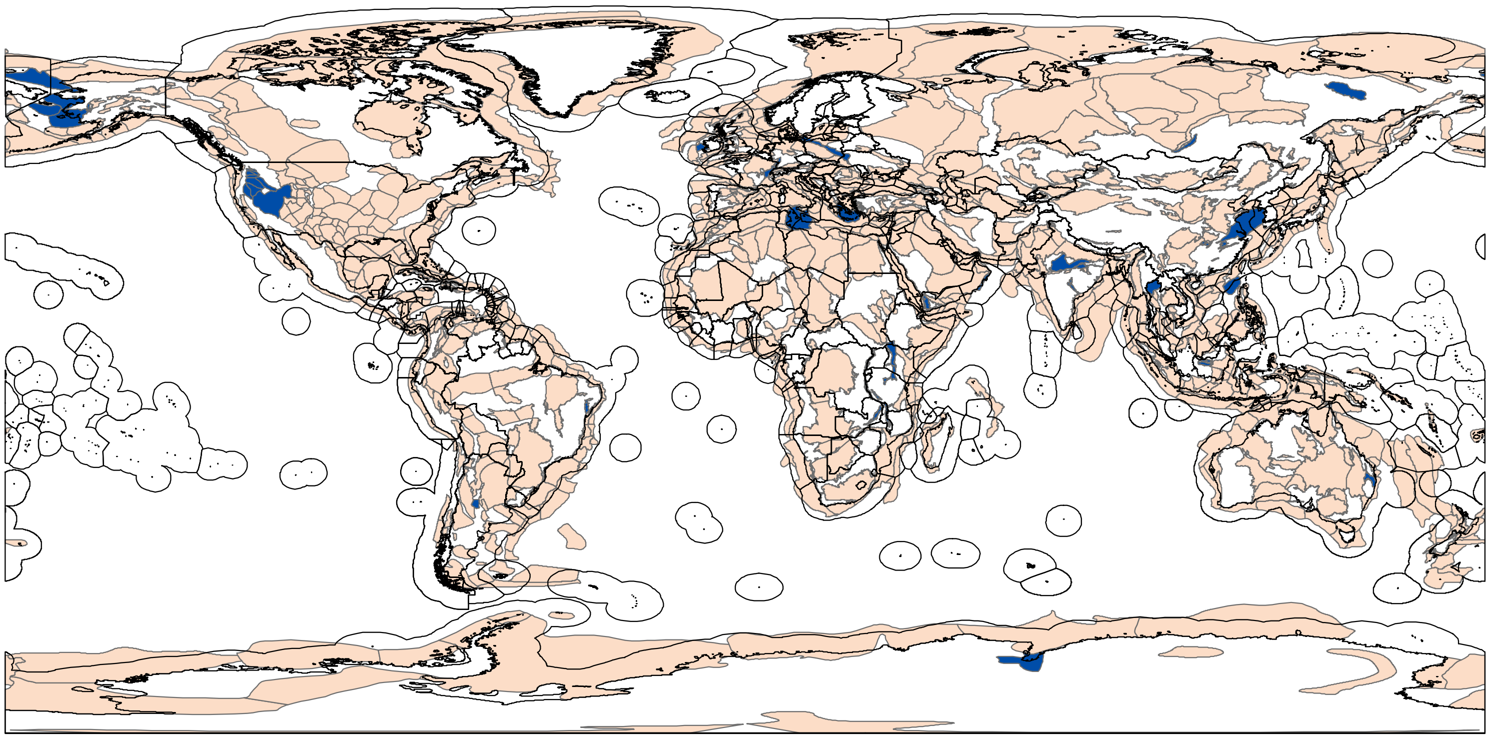
Source. Fugro Robertson, Ltd. (2013).

Figure D.5: Basins: Convergent Ocean-Ocean Tectonics



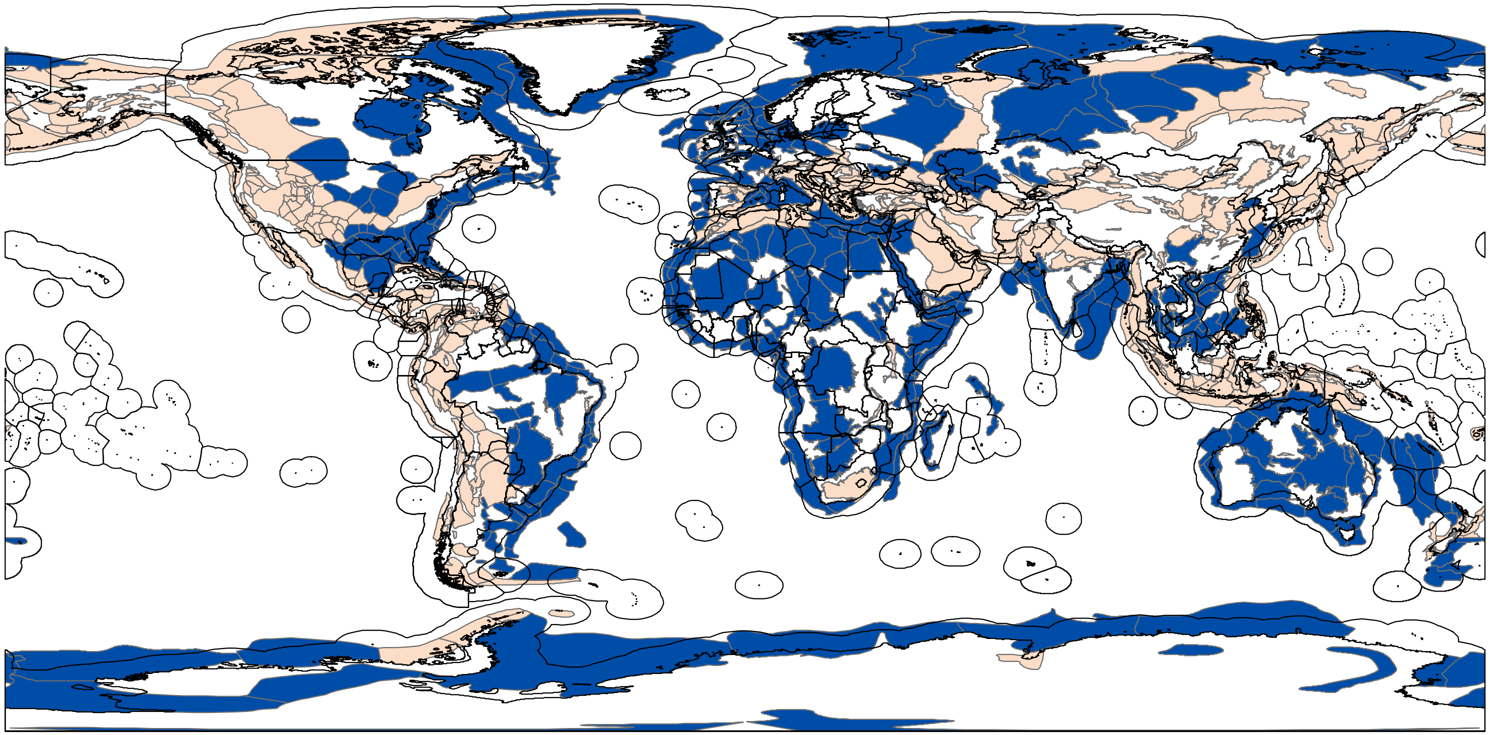
Source. Fugro Robertson, Ltd. (2013).

Figure D.6: Basins: Divergent Tectonics, Mechanical Subsidence



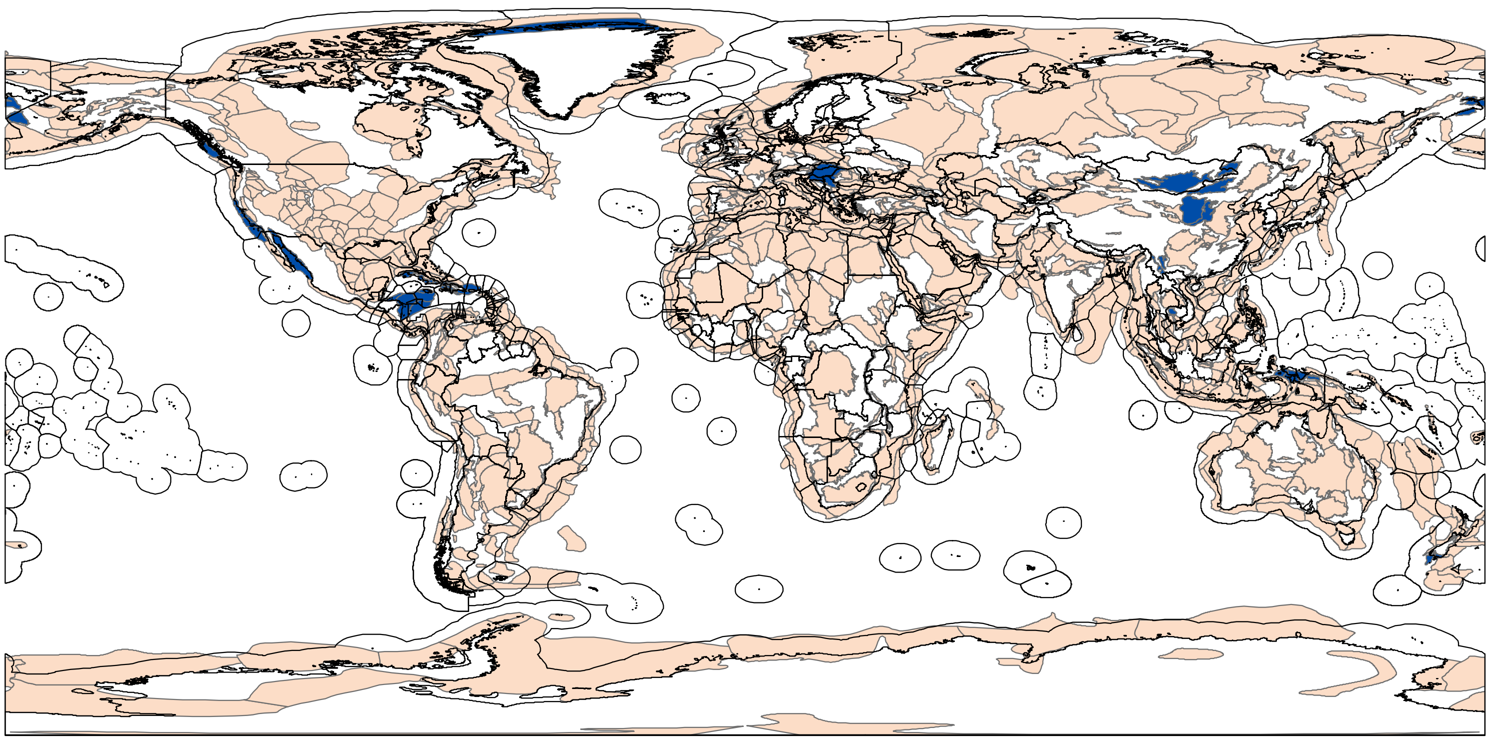
Source. Fugro Robertson, Ltd. (2013).

Figure D.7: Basins: Divergent Tectonics, Thermal Subsidence



Source. Fugro Robertson, Ltd. (2013).

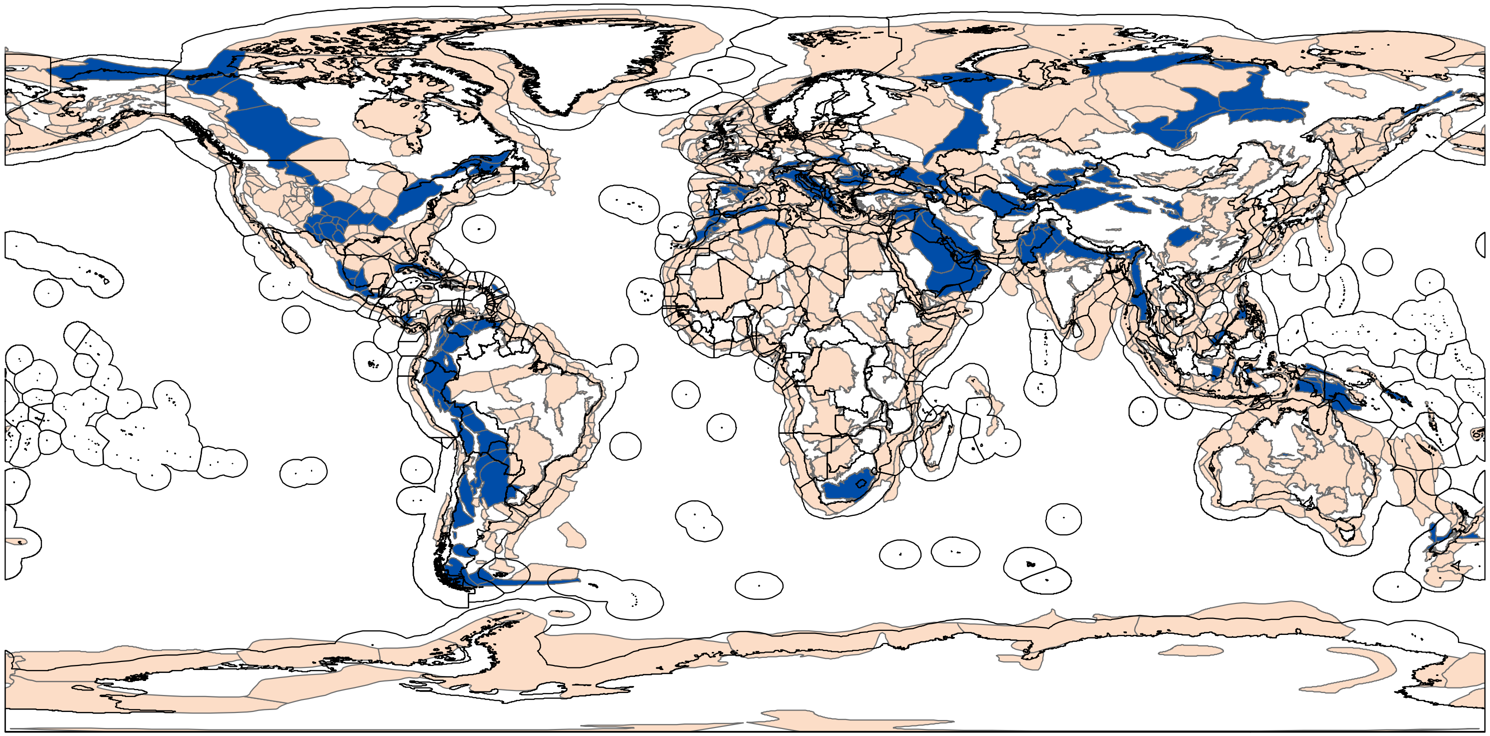
Figure D.8: Basins: Wrench Tectonics, Mechanical Subsidence



Source. Fugro Robertson, Ltd. (2013).

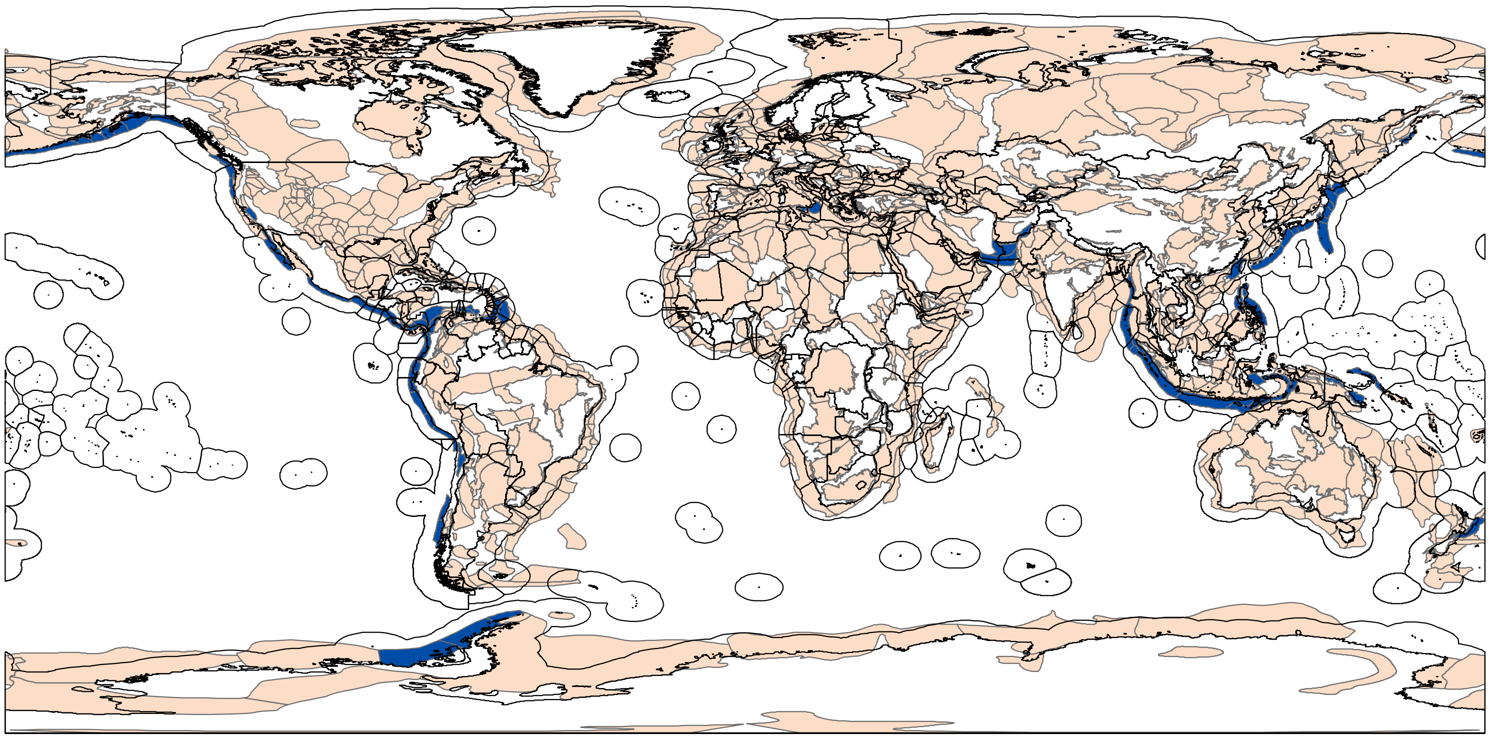
D.2 Basins Grouped by Final Component of Fugro Tellus Code

Figure D.9: Foreland Basins



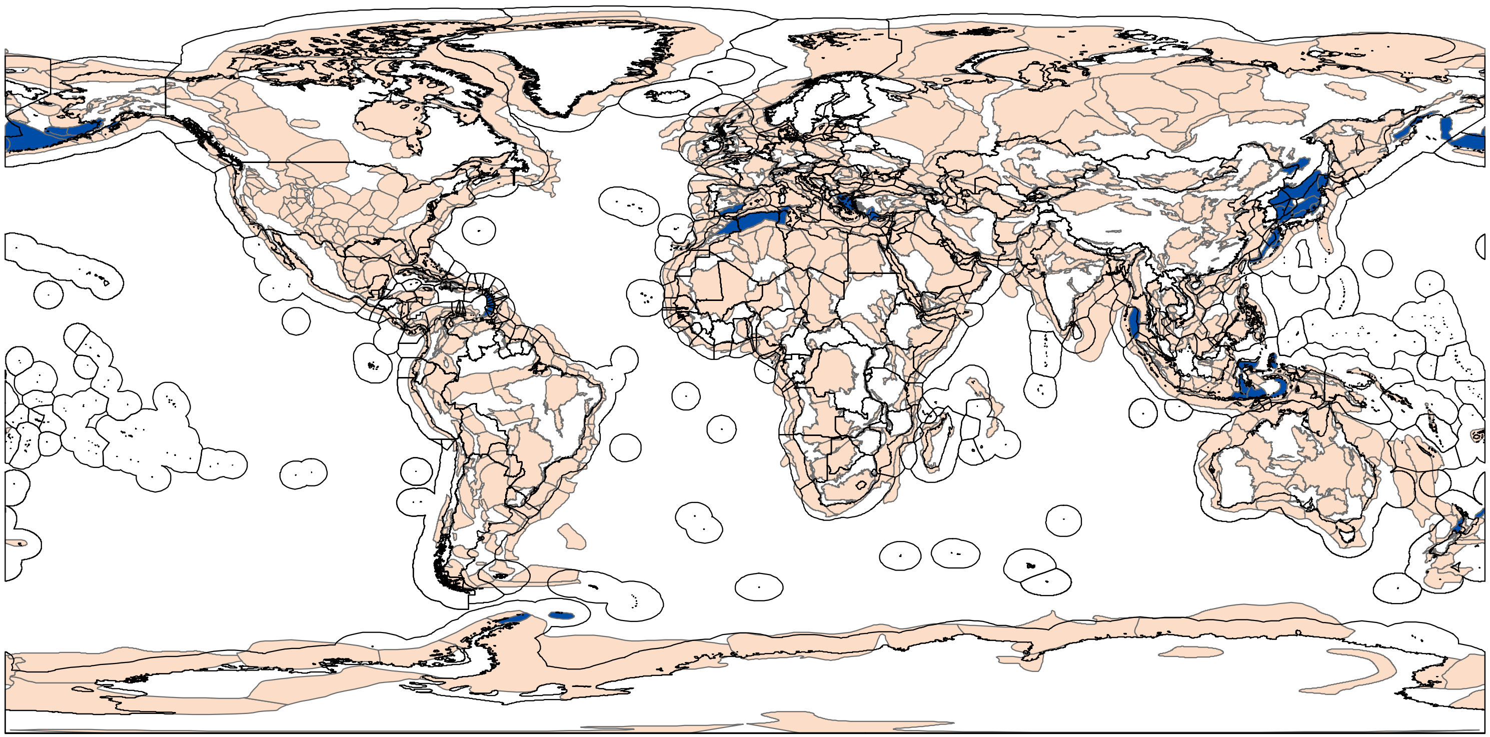
Source. Fugro Robertson, Ltd. (2013).

Figure D.10: Fore-Arc Basins



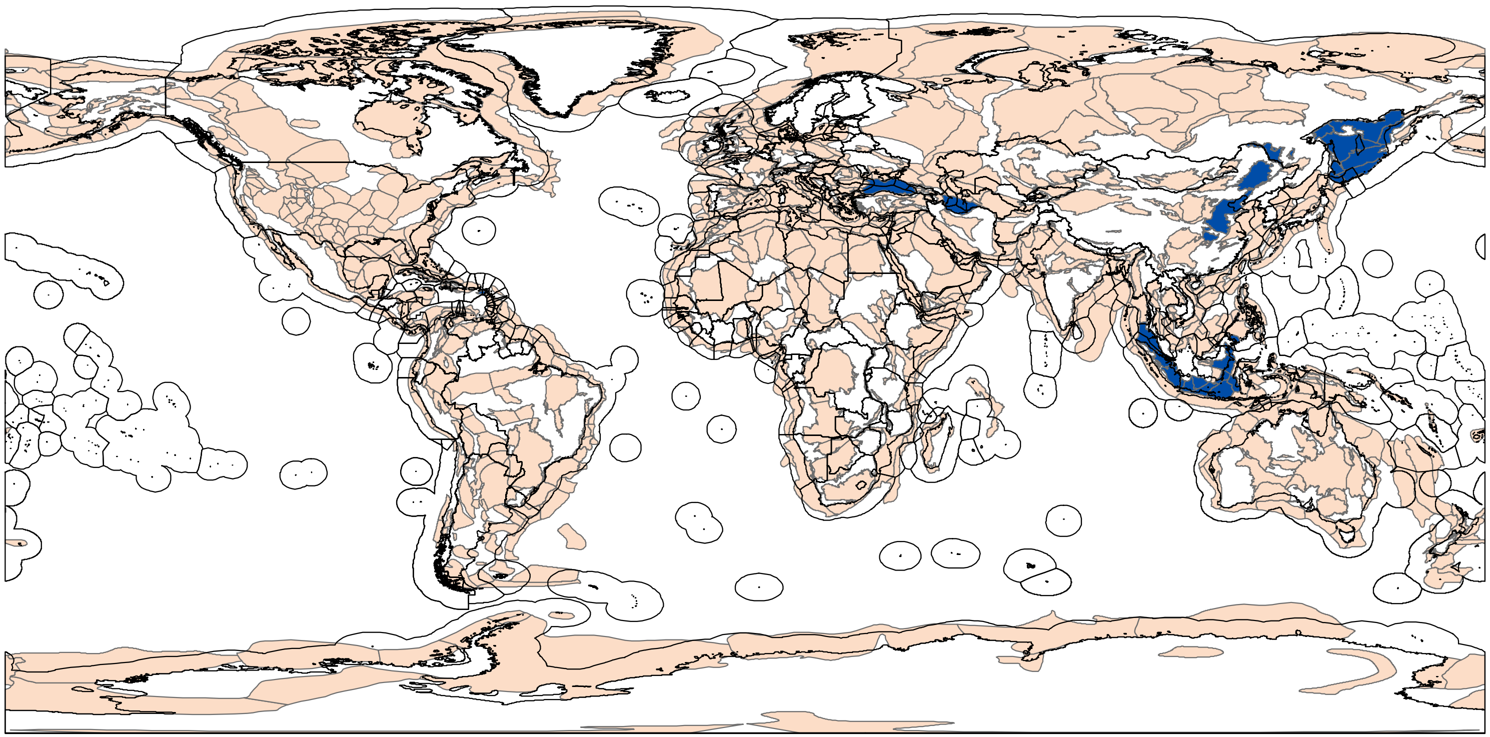
Source. Fugro Robertson, Ltd. (2013).

Figure D.11: Extensional Basins



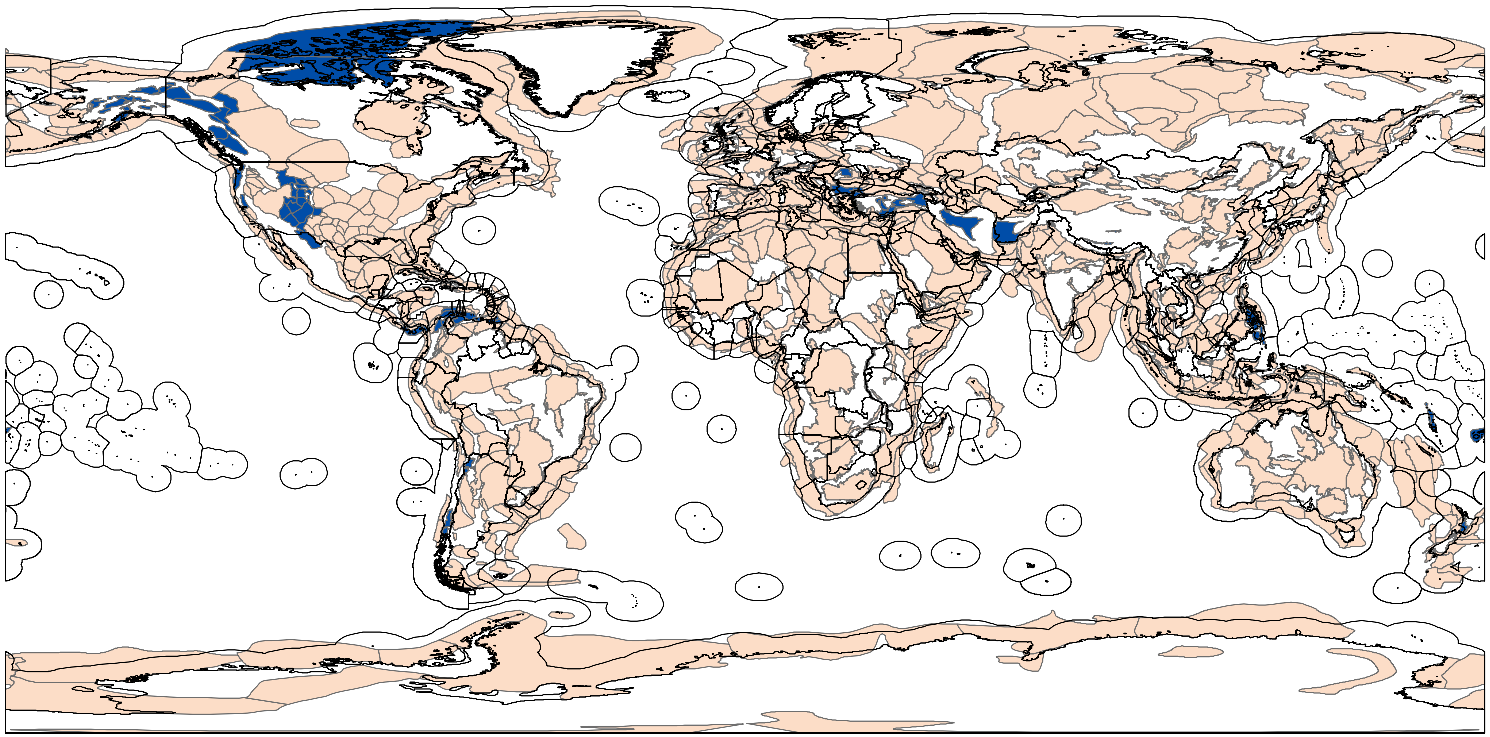
Source. Fugro Robertson, Ltd. (2013).

Figure D.12: Convergent Sag Basins



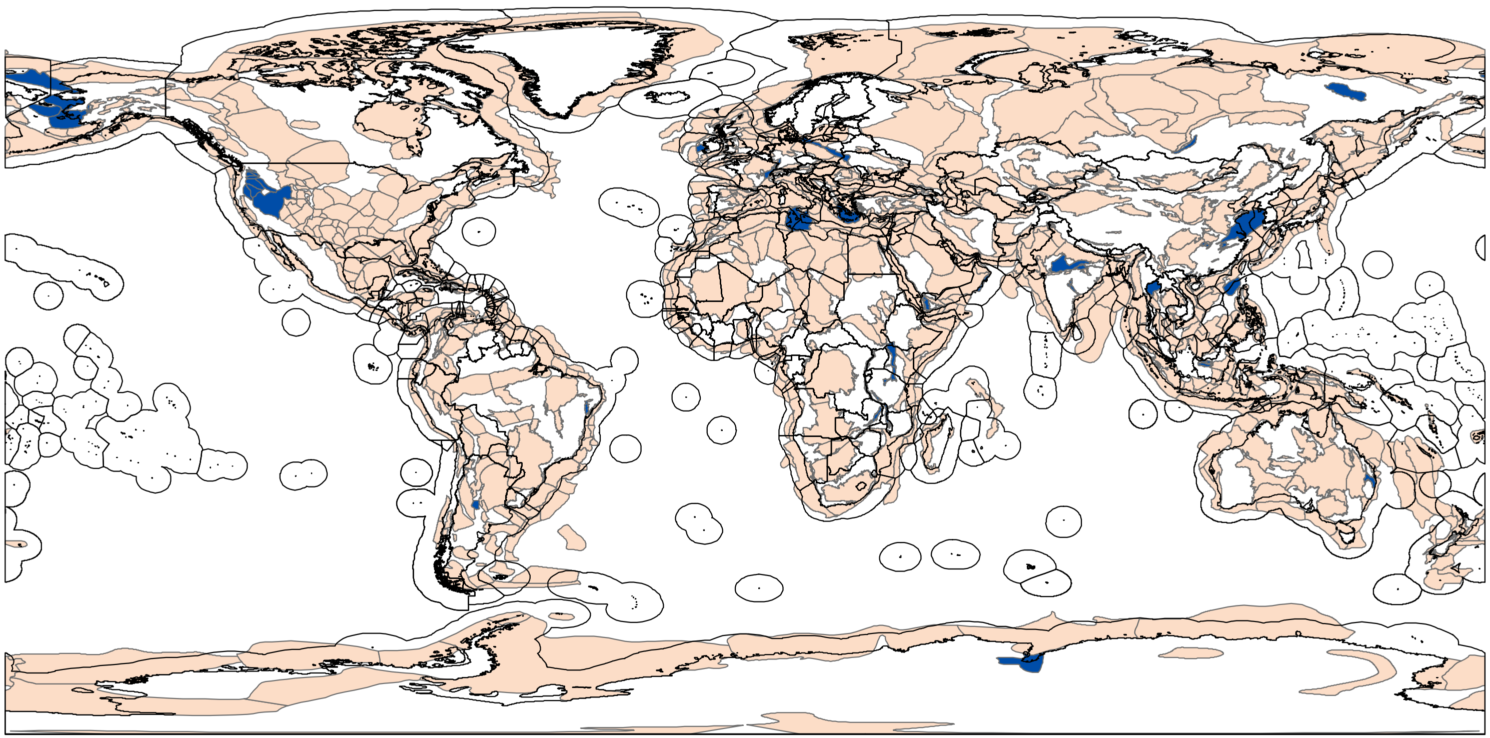
Source. Fugro Robertson, Ltd. (2013).

Figure D.13: Convergent Wrench Basins



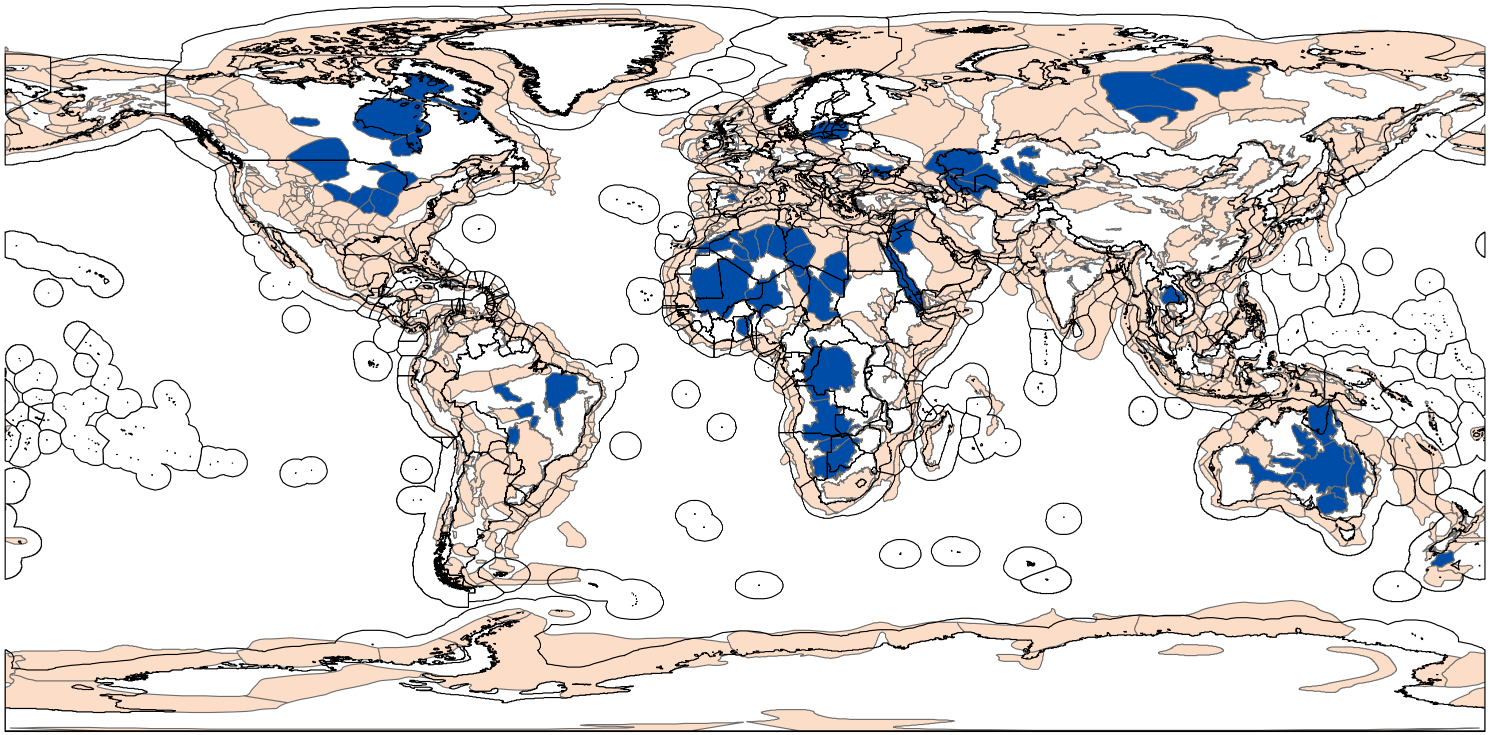
Source. Fugro Robertson, Ltd. (2013).

Figure D.14: Rift Basins



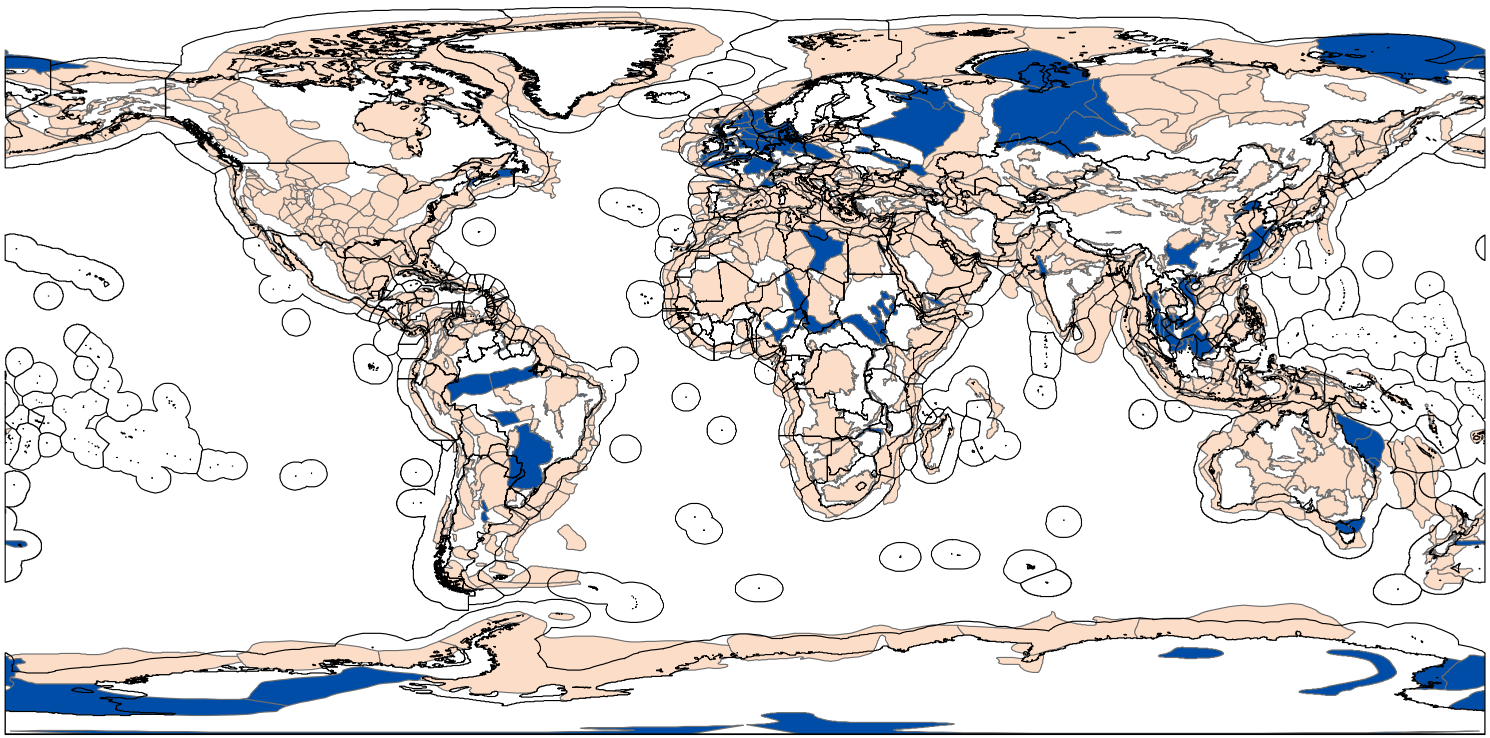
Source. Fugro Robertson, Ltd. (2013).

Figure D.15: Intracratonic Sag Basins



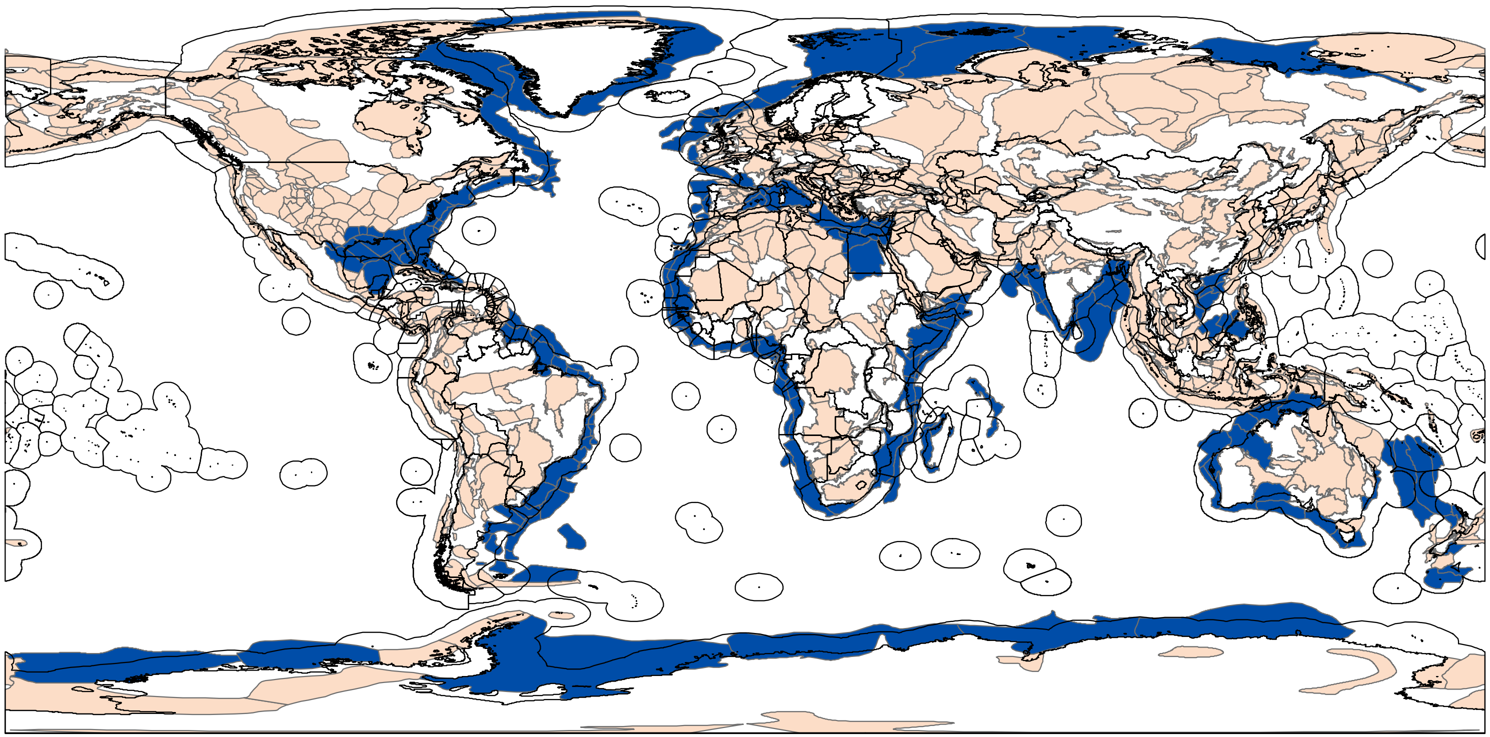
Source. Fugro Robertson, Ltd. (2013).

Figure D.16: *Post-Rift Sag Basins*



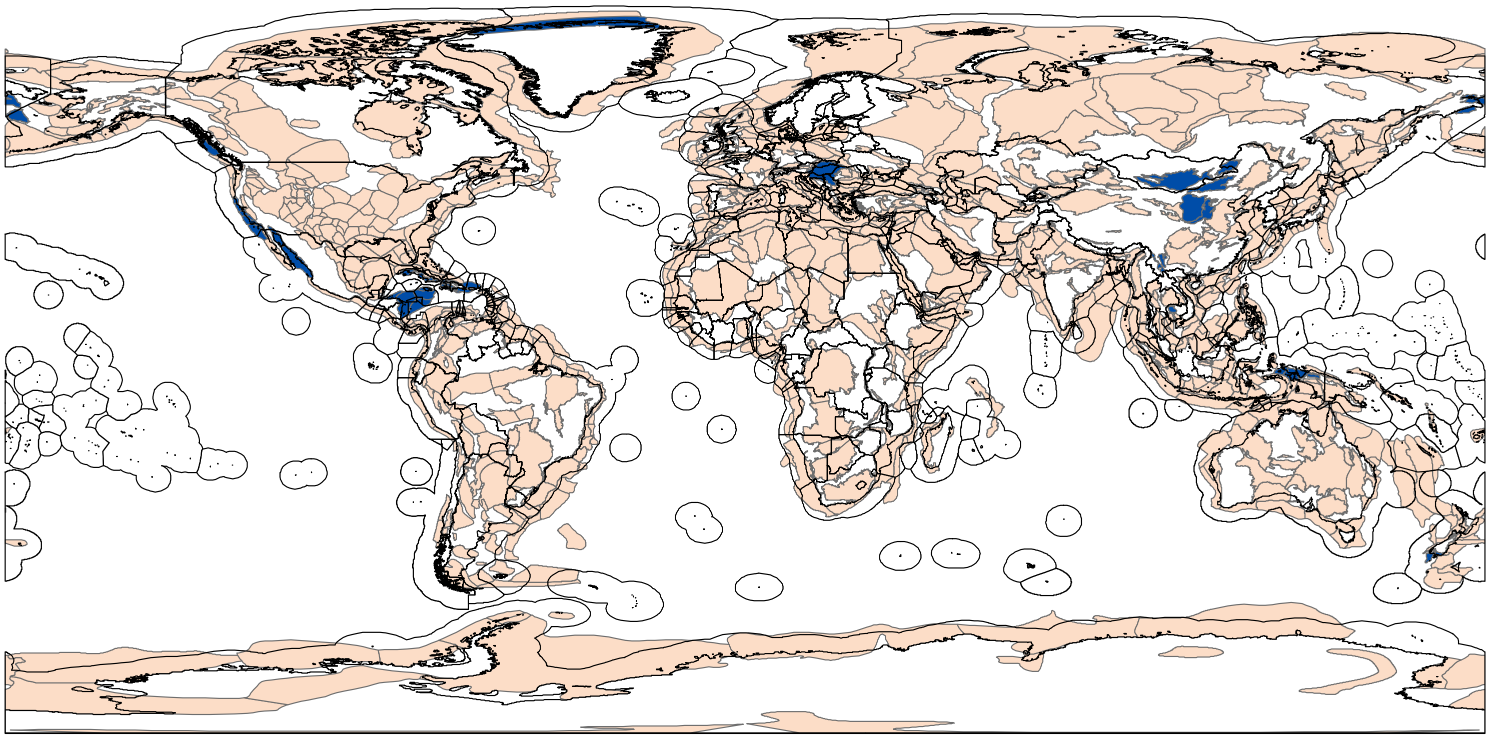
Source. Fugro Robertson, Ltd. (2013).

Figure D.17: Passive Margin Basins



Source. Fugro Robertson, Ltd. (2013).

Figure D.18: Wrench Basins



Source. Fugro Robertson, Ltd. (2013).

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