Essays detailing oil histories and nationalizations of countries coded in the National Oil Companies (NOC) Dataset

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Albania

Exploration for oil in Albania began as early as 1918, led by an Italian geologist and later by Standard Oil and the Anglo Persian Oil Company (Gordani 2017). Italy maintained a heavy presence in Albania in the early twentieth century and Italian companies dominated the sector from around 1928 to 1944, receiving multiple concessions from the Albanian government. Towards the close of the second world war, the communist party took control of the Albanian government and established the People's Republic of Albania which worked closely with Yugoslavia. The new president, Enver Hoxha, implemented sweeping expropriations of foreign assets and nationalized the oil industry (Bonapace 2015). Beginning after 1944, hydrocarbon operations were led by the General Petroleum and Gas Directory, a state-run entity (Mezini n.d.).

After the fall of the communist government in 1992, the state began implementing democratic reforms. However, it decided to maintain control over the oil and gas sector. In 1993, the government passed Law No. 7746, "On hydrocarbons (exploration and production)", and established the national oil company Albpetrol through Government Decision no. 159, dated March 20, 1993 (Albpetrol website). The NOC's mandate is to research and produce hydrocarbons as well as processing and marketing (though these latter functions are handled by partly-owned subsidiaries). The company's website states that the establishment of Albpetrol in 1993 "made a change in the company role, which today is not only oil production, but also functions as a regulatory entity and a controller of related hydrocarbon agreements between Albanian State and Foreign Companies."

The other regulatory bodies that oversee the oil and gas sector include the National Agency of Natural Resources (AKBN) and the Ministry of Energy and Industry. Foreign companies are allowed to exploit petroleum reserves in Albania provided they enter into license agreement with Albpetrol or through a petroleum agreement with MEI (International Comparative Legal Guides 2017, National Agency of Natural Resources 2015).

In 2011, Banker's Petroleum Ltd. purchased what was left of Albpetrol's production assets in Patos-Marizina oil field. In 2012, the government attempted to privatize Albpetrol by selling it to Indonesia-based company, Vetro Energy but the sale was ultimately invalidated. In 2015, the government announced renewed plans to privatize the NOC, but as for the coding, Albpetrol remains wholly state-owned through 2015.

NOC Presence
Coded 1 from 1945 to 2015 for the years of The General Petroleum and Gas Directory and then Albpetrol beginning in 1993.
NOC Ownership
Coded 1 from 1945 to 2015 since the state has maintained full ownership over its NOCs.
Production Status
Coded 1 from 1945 to 2015.
Majority Production Status
Coded 1 from 1945 to 2007. Coded 0 from 2008 to 2015 after Banker's Petroleum Ltd's production surpassed that of Albpetrol's (USGS 2008).
Regulatory Capacity
Coded 0 from 1945 to 1992. Coded 1 from 1993 to 2015 starting with the creation of Albpetrol.

Competing NOC
Coded 0 for all years.

Algeria

The first oil discovery in Algeria was made in 1948 at Oued Guétérini. Production was handled by a number of French companies, notably Elf-Aquitaine and CFP. Shortly after gaining independence from France in 1962, the Algerian government founded the national oil and gas company, Sonatrach, in 1963. It was formed not as a 100% state owned enterprise but rather as a joint-stock company which "allowed the firm some semblance of independence" (Entelis 2010: 4). In the initial years, it was just one of many firms involved in the country's hydrocarbon sector. Not until 1966 was the company involved in both upstream and downstream activity, including production, distribution, refining and petrochemical processing, exploration, and engineering.

The nationalization process began in 1967 and ended in 1971 with the expropriations of Société Shell Petroleum N. V., Société Française des Petroles Elwerath (SOFRAPEL), and all other French oil companies (Presidential Statement of Feb 24, 1971). Decree No. 71-98 of 12 April 1971 set the tone for nationalization of the oil industry, mandating that each private company nationalized would have Sonatrach as its majority shareholder at 51% control. Nationalization of the oil and gas sector was solidified as part of a broader agenda of socialism by the ruling party (the only legitimate political party allowed), the National Liberation Front (FLN), with the passage of a socialist national charter in 1976 (Werenfels 2002).

Liberalization in other sectors of the economy began in 1979 under President Chadli Benjedid (1979-1992); the oil and gas sector was not privatized but Benjedid pressed for economic efficiency with the establishment in 1981 of the National Energy Council. Further, the decentralization of Sonatrach starting in April 1980 resulted in more than ten different companies spawned from Sonatrach's operations and assets, all during a period in which other countries with NOCs were pressing for full integration of operations. At this time however, the government rewrote its Sonatrach policy: in addition to its petroleum activities, the government mandated the company to engage in "direct services needed to satisfy the increasing social needs of a young, restless, and expanding population" (Entelis 2010: 5).

In 1969, the company began production capacity (Sonatrach website). By 1986 Sonatrach became the majority producer, with the majority of oil sales are controlled and produced by Sonatrach (generally over 65% for 1986 – 2005 period) (Entelis 2010). PSAs and other unfavorable contract terms which began with the 1986 Petroleum Law (Law 86-14) and amended with the 1991 law (Law 91-21 of Dec 4, 1991) forced all foreign operators to at the very least have Sonatrach as a partner (Entelis 2010: 21). Further, every contract and license must have Sonatrach operating and owning at least 51%, with foreign companies not allowed by law to more than 49% of any production or operation.

The 1992 coup d'état capped a brief two-year period of economic struggles during which time Sonatrach was re-integrated and de-integrated in alternating phases. Military President Liamine Zeroual (1994-1998) allowed for further liberalization of the company in the attempt to make Sonatrach and its subsidiaries more competitive in the international market while still being under state control (Entelis 2010). It continues (as of 2015) to still be under full state control despite the state's promises of liberalization and transparency.

These two laws also placed the National Energy Council and Sonatrach as regulators and overseers of all other oil companies both upstream and downstream (unlike other countries with NOCs, foreign companies are allowed to operate in downstream activities). A later amendment in Law 05-07 in April 2005 changed the regulatory framework to make Agence Nationale pour la Valorisation des Ressources en Hydrocarbures (ALNAFT) the independent regulator through which the state enters into contracts with foreign oil companies and shared agreements between companies and Sonatrach. Thus, starting in 2005, Sonatrach was no longer the regulator; this process is described by Ghellal (2013):

> Prior to the entry into force of Law 05-07, there was some overlap between the State's and Sonatrach's powers and responsibilities. Following the reform of the hydrocarbons sector in 2005, some of Sonatrach's prerogatives were granted to ALNAFT, especially the collection of the royalty. In addition, Sonatrach is no longer the holder of mining licences which, going forward, are granted exclusively to ALNAFT.

As of 2015, ALNAFT remains the sole regulator of the oil industry and Sonatrach still retains the obligatory minimum 51% participation right.

NOC Presence
Coded 1 starting in 1963 with the establishment of Sonatrach, and up to 2015.
NOC ownership
Coded 1 starting in 1971 and continuing until 2015 given that full ownership of the company was not achieved until the 1971 "full nationalization." Coded 0 all years prior.
Production status
Coded 1 starting in 1969 when Sonatrach began production capacity by its own right in the El Borma field and continuing until 2015. Coded 0 all years prior.
Majority production status
Coded 0 from 1962 to 1985. Coded 1 from 1986 to reflect the beginning of Sonatrach's status as producing at least 51% of Algerian production, and averaging 65% across the 1986-2015 period.
Regulatory capacity
Coded 1 from 1986 to 2004 when Sonatrach shared regulatory capacity with the National Energy Council. From 2005 onwards, coded 0 since regulatory capacity was transferred to the newly formed state agency, ALNAFT.
Competing NOC
Coded 0 for all years.

Angola

The Cabinda Gulf Oil Company (CABGOC, owned by Gulf Oil) first discovered oil in Angola in 1955. Prior to independence in 1975, Angolan oil production was operated by a Gulf-led consortium of IOCs made up of Chevron, Texaco, and Petrofina (Hodges 2004). Immediately after independence the oil sector was nationalized. In 1976 the government created a 100% state-owned oil company, Sociedade Nacionale de Combustíveis de Angola, known as Sonangol, by Decree 52/76. The NOC was created on the foundation of ANGOL, a Portuguese oil company which was nationalized by the government. Unlike other NOCs founded in the1970s, Sonangol was not created as a producer but rather as a manager and regulator of IOCs operating in the country: its primary mandate is to establish and manage contracts with foreign operators engaging in production and investments in exploration (Heller 2010). Despite Angola's tumultuous history since independence (the civil war formally ended in 2002), Sonangol successfully managed a thriving oil industry and has engaged in increasingly complex deep water offshore oil and gas production.

The company was established during a time of crisis in the country when most IOCs decided to leave and stop production in the face of civil war. At this time, the state (here referring to the MPLA, the prevailing ruling party at the time of independence, the others being UNITA and FNLA) decided to establish a regulatory body (National Commission for the Restructuring of the Petroleum Sector, known as CNRIP) to manage the oil sector (Heller 2010). Instead of creating a production-capable NOC, the state decided to coerce Gulf Oil back into the country to continue operations, with the knowledge that any national company would not have the necessary production capacity to engage in E&P (and would thus have no way of extracting the oil since the IOCs had left). According to Soares de Oliveira (2007), the government promised Gulf Oil that no further expropriations would take place, nor would the company be subjected to the violence that had been ravaging the country outside of the strategically well-placed oil reserves in the disconnected Cabinda province.

Not until 1978 did the company begin to engage in joint ventures and PSAs: at this time the state enacted Law 13/78 (known as the 1978 petroleum law) and Sonangol took control of 51% of the oil fields operated by Cabinda Gulf Oil Company (Hodges 2004). At this point, Sonangol became a producer (through its E&P subsidiary, Sonangol Pesquisa & Produção) and the state "vested it with the role of concessionaire in charge of the granting of rights over new acreage" and "setting block sizes and terms, selecting operating groups, and negotiating formal agreements" (Heller 2010: 11 and 19, respectively).

Heller (2010) describes the company as having a "stewardship role" in the oil sector, granting concessions since 1976 and managing joint ventures and PSAs since 1978. In the 1990's Sonangol was restructured into a group, Sonangol EP, with over 18 subsidiaries and joint ventures (Sonangol website and Soares de Oliveira 2007). Though it is characterized as one of the more efficient and successful NOCs (see Wolf 2009 and Victor, Thurber, and Hults 2010), the company is still asked to perform some non-oil activities, ranging from funding airline companies, serving as an insurance company, guaranteeing loans for the government using its "superior risk reputation", and even funding and managing arms during the country's civil war (Heller 2010). However, these activities serve to diversify Sonangol's investment portfolio

(Hodges 2004) and should not be confused with the non-oil activities performed (by force) by other NOCs.

NOC Presence
Coded 1 from 1976 (when Sonangol was established) to 2015.
NOC Ownership
Coded 1 from 1976 to 2015.
Production Status
Coded 0 from 1975 to 1977. Coded 1 beginning in 1978, the first year of production capacity, up to 2015.
Majority Production Status
Coded 0 for all years since Sonangol never achieves majority production status.
Regulatory Capacity
Coded 1 from 1976 to 2015.
Competing NOC
Coded 0 for all years.

Argentina

One of the oldest intact oil-producing countries, Argentina first discovered commercial oil deposits in 1907, in a Patagonian field operated by state workers. At that time, the state had already had in place an interventionist law on the use of public lands: in 1903 president José Figueroa Alcorta decreed the Public Lands Law which allowed the state to expropriate reserves (for no compensation) when any petroleum was discovered on state-owned lands.

The early years of Argentine oil policy were fraught with disagreement over state intervention. Opposition to state ownership was based on the concern that an illiberal economy would "lessen the traditional attractiveness of Argentina to foreign investors" (Solberg 1979: 14). This paved the way for Law 7059 of 1910, which opened the majority of state-owned petroleum lands to private investors for purchase as concessions from the Bureau of Mines.

In the same year, however, the state set up a quasi-NOC, Dirección General de Explotación del Petróleo de Comodoro Rivadavia, commonly known as the Petroleum Bureau, in late 1910. This was in part a response to a fear that Standard Oil would buy up all concessions and monopolize Argentina's oil resources (Yergin 1991).

The Bureau was a loose organization of state workers and hired engineers from Europe. Still, the state had claims to subsoil reserves, production, and distribution and thus the question of NOC presence is coded 1 beginning in 1910. On April 1, 1911, it formally took over all operations of state oil fields, making it the majority producer in the country (Solberg 1979). As such, the creation of the Petroleum Bureau allowed the state to break back into the oil industry with congressional appropriations to the company starting in 1912 and ending in 1916 when the company could afford to finance its projects by itself (Solberg 1979, see table 1.2 on p.7).

The tumultuous period between 1913 and 1920, during which time the effects of WWI were strongly felt in Argentina and political debates ensured gridlock in parliament, allowed president Yrigoyen to tighten the state's control of the oil industry. Yrigoyen, with the help of General Mosconi, created the world's first vertically integrated state-owned oil company: on June 3, 1922, Yacimientos Petroliferos Fiscales (YPF) was born as the first-ever NOC (Yeatts 1996; Solberg 1979). Up until its privatization in 1991, the company had full capacity in exploration, production, transportation, refining (which didn't begin until 1923), and distribution of oil.

YPF continued to increase its power over the private sector in the 1920s as president Yrigoyen encouraged regulations and legislation that favored a stronger presence of the state in the oil sector coupled with the cessation of concession-granting to private companies (Philip 1982). This cessation was short-lived and in 1925, concessions to Standard Oil and the Argentinean private firms continued, though at this point in time, no production sharing or joint ventures were in play.

Further, YPF was a "pivotal player in drafting oil legislation," making it a key part of the government's oversight of the private oil sector (composed of Standard Oil and a number of private domestic firms). In 1932, Law 11668 established YPF as a federal agency in charge of regulating the industry, in addition to E&P activities, during a time when private companies were more efficient and successful producers (Yeatts 1996).

A key issue in political debates over resource nationalism was the ownership and management of subsoil resources, and whether those responsibilities should lie with the provinces or the federal government. The oil law of 1935, which barred further concessions and federalized oil reserves, was a victory for the latter (Philip 1982). The strengthening of YPF was a symbol for the federal state's power and control of the oil industry, as well as a nationalist and protectionist symbol to Standard Oil of New Jersey and the British companies (Philip 1982: see pages 168 – 180). Outright nationalization of the industry, on the other hand, did not occur in this time period (the 1920s and early 1930s) because it was "economically costly since Argentina was in no position to refuse compensation and in any case, it stood almost no chance of success in the institutional climate of 1928-1930" (Philip 1982: 178).

Oil policy fell from the spotlight until the late 1950's when President Frondizi, prompted by industry's lack of efficiency and capital, began initiating greater foreign investment. The next decade saw even further economic liberalization, but political upheaval in the executive swung the industry back towards nationalism in the 1970s.

Privatization in 1992 paved the way for a sector mostly free from government intervention until president Kirschner established a new state-owned company by the name of Enarsa (standing for Energia Argentina S.A.) in late December 2004 by presidential decree 1529/2004 which became national law 25943. It was founded as an integrated oil company with arms in exploration, production, transport, distribution, and marketing of oil and gas, with the bulk of its reserves located offshore. It is not a majority producer, nor does it have oversight power over IOCs and foreign operators in the country. The company is also active in the wholesale power market, being a key generator and distributor in Argentina's electric power industry.

In 2007, the Argentine government passed a law returning hydrocarbon fields to the provinces and allowing them to control their promotion and development (Instituto Argentino del Petróleo y del Gas, 2015). The state then re-nationalized YPF in 2012 after becoming dissatisfied with its former owner, Repsol, blaming it for underinvestment and a failure to keep up with domestic energy demands. Further reform to the oil industry occurred in 2014 with a law that created greater incentives for foreign investment; notably, the law requires that the NOCs compete with private companies undoing the former policy of reserving areas for NOC development.

NOC Presence
Coded 1 from 1911 to 1992 to reflect the existence of the Petroleum Bureau and then YPF as majority state-owned companies. Coded 0 from 1993 to 2004 during privatization years. Coded 1 from 2005 (after creation of Enarsa) to 2015 (including YPF's re-nationalization).
NOC Ownership
Coded 1 for all years when Q1 is coded 1 given the full ownership of Petroleum Bureau and YPF by the state except in the 1991-92 years of mixed ownership. The years 2005 to 2015 also coded 0 since the state only holds a 53% share in Enarsa (see company website) and a 51% share in YPF.
Production Status
Coded 1 for all years with NOC: 1911-1992; 2005-2015.
Majority Production Status

Coded 1 from 1911 to 1930. Coded 0 from 1931 to 1937. Coded 1 again from 1938 to 1990. Coded 0 from 1991 to 2005.[1] Coded 1 again after the re-nationalization of YPF (who remained majority producer throughout years of privatization).

Regulatory Capacity

Coded 1 from 1922 to 1990 with the final two years of YPF as state-owned being coded as 0 since these rights were removed from YPF's responsibilities. Coded 0 thereafter since even after NOCs reappeared, contract awarding authority had shifted to provincial and federal governments.

Competing NOC

Coded 0 for all years.

[1] (Coding is based on Solberg's (1979) table 6.2 for the years 1930 – 1973 which indicates the percent of total domestic production by state-owned fields vs. private fields (Solberg 1979: 174). The 1907 – 1930 and 1973 – 1996 periods are coded according to Yeatts' (1996) appendix III on page 191.)

Australia

Exploration began in the early 1800s when oil shale was discovered in 1802 by French explorers in New South Wales. Light production of oil shale and kerosene distillation continued until 1902 when exploratory drilling led to discovery of crude oil in Western Australia at Warren River but in mostly condensate and trace form. Conventional crude was not discovered until 1924 at Lake Bunga No. 1 well in Victoria (APPEA n.d.). This led the government to draft the Petroleum Prospecting Act in 1926 followed by the 1928 Geophysical Survey Act, both pieces of legislation which incentivized wildcatters and companies alike to explore the country's vast tracts of potential oil territory. However, the first commercial find did not occur until 1960 at Surat Basin, where exploration was spurred by a 1957 regulation for a governmental 50% subsidy scheme for exploratory drilling (Bradshaw et al. 1999).

In 1959, the Australian Petroleum Exploration Association was formed to further encourage exploration. This was not a state-owned company but rather a regulatory body to manage the wildcatters and foreign as well as domestic companies. After the 1960 find, the government reduced the subsidy and began offering five-year fixed price terms for contracts when the oil industry began booming. The boom, it appears, was the result of "the impact of technology, causing an improvement in exploration efficiency and making more of Australia's geological endowment accessible" (Bradshaw et al. 1999: 8). Offshore advances were also made during this period in Australia; as a result, offshore drilling ramped up in the late 1960s.

Citing Lavering (1990), members of the Australian Geological Survey Organization write that in the 1960s, "despite the availability of cheap imported oil, Australian crude oil production was encouraged by regulated pricing and preferential treatment as feedstock to local refineries" (Bradshaw et al. 1999: 9). This regulated pricing was as far as the state went in market intervention in the Australian oil industry (or for that matter, any sector of the economy, including the previous dominant sector, the wool industry). The scheme was designed by the government to encourage local oil development, as imported oil was set to roughly 75 cents/barrel higher than domestic oil. This ended in 1969 with the advent of the fixed price contract scheme in conjunction with the 1957-1974 government subsidy scheme mentioned above. Thus, the coding for Australia is 0 for all questions.

The anomalous 1970s "doldrums" in exploration was a direct consequence of the fixed pricing scheme which held prices artificially low during the oil shocks. However, with the new coalition government (1972-1975) bent on reform, prior incentives to invest were removed (such as the subsidy) and foreign capital inflows were halted. Further, there was even a discussion of creating a national oil company, but it never came to fruition (Bradshaw et al. 1999: 11).

All questions are coded 0 for all years given that the sector is and has always been privatized.

Austria

In 1956, Österreichischen Mineralölverwaltung Aktiengesellschaft was founded as a state-owned enterprise (Grayson 1981). OMV began as a producing NOC while regulatory rights were managed by a separate agency. Privatization began in 1987 with the sale of 15% of shares; by 1989, 25% of shares were private; by the end of 1994, 50.1% were private, making the company no longer majority state-owned (OMV website). By 1996, 65% of shares were private. As of 2016, the state still owns 31.5% of shares of OMV through its holding company, Österreichische Bundes- und Industriebeteiligungen GmbH (ÖBIB) (OMV website). Upon initial privatization in 1986, OMV was no longer the majority producer in the country's upstream operations (USGS 1990).

NOC Presence
Coded 1 for 1956-1993 and 0 otherwise since OMV became majority owned by private shareholders in 1994.
NOC Ownership
Coded 1 for 1956-1986, 0 otherwise.
Production Status
Coded 1 for 1956-1993 and 0 otherwise since OMV became majority owned by private shareholders in 1994.
Majority Production Status
Coded 1 for 1956-1986 and 0 otherwise
Regulatory Capacity
Coded 0 for all years
Competing NOC
Coded 0 for all years.

Azerbaijan

Historically the first commercial oil producer in the world, Azerbaijan has been involved with the oil industry for over 150 years, with the first ever mechanical oil well drilled in 1847 (Yergin 1991). Prior to independence in 1991, the Azerbaijani oil industry was operated and managed by Soviet oil companies, most famously at the offshore facility known as "Oily Rocks", a floating city of sorts created by Soviet engineers in 1947 with roughly 600 wells drilled (Hoffman 1999). After independence, the State Oil Company of the Azerbaijan Republic (SOCAR) was established in 1992, creating an intermediary between the state and the IOCs. The company's prerogative is to oversee, negotiate, and manage all oil and gas contracts as well as engage in international oil marketing (Hoffman 1999).

A consortium of IOCs led by BP and Amoco has operated Azerbaijan's mostly offshore oil and gas fields, with the famous "contract of the century" 1994 deal creating the Azerbaijan International Oil Company consortium. The AIOC consortium members provide the investment necessary for E&P since SOCAR is unable to do so, nor can it obtain funding from the Azerbaijani government (Hoffman 1999). In terms of production capacity, SOCAR is fully integrated, with 80,000 employees spread across oil and gas field operations, refineries, and oil pipeline management (Skagen 2000).

The company is not a majority stakeholder nor majority producer in any of Azerbaijan's fields or consortiums: it holds only a 10% stake in AIOC (which operates roughly 45% of the country's oil reserves) and at most has 50% stakes in the Oguz, Apsheron, and Nakhchivan basins (which cumulatively hold less than 25% of the country's oil reserves and less than 40% of gas reserves) (van der Leeuw 2000). Despite Hoffman's (2000: 192) contention that "only approximately 16 percent of Azerbaijani oil wells were operated by joint ventures as of October 1999," it would appear that while SOCAR does operate the majority of wells, it does not operate the majority of production. As of 2015 SOCAR remains a minority producer, responsible for "about 20% of Azerbaijan's total oil output" (US EIA).

Onshore and offshore oil blocks are dealt with differently in terms of contracting. From 1991 – 1998, onshore fields were offered by concession and production by IOCs was taxed with royalties; after 1998, a PSA system was created for onshore phases. For offshore fields, the use of PSAs has been in play since independence in 1991, with standard operating terms: production is split at the well-head and after cost oil has been recovered by the investor IOC, the profit oil is split according to the specific percentage agreement of each individual PSA (Hoffman 1999). While in principle, the parliament must ratify each agreement, the close ties between the leadership of the executive power and that of SOCAR call into question the trustworthiness of this arrangement (Hoffman 2000: 164-165).

Hydrocarbons are the primary source of revenue for the government and the economy in general: its non-oil economy has been described as "largely barren…its industry at a virtual standstill…and once-vibrant manufacturing and export sectors laid low by severed trade links [with Russia and the Caucasus] and a strong national currency" (Hoffman 1999: 4). The state is heavily reliant on its now ageing oil industry with roughly 65% percent of budgetary revenue derived from oil and gas as of 2011, up from 54% in 2005 (Resource Watch Institute – Azerbaijan 2016). And despite pressures from state bodies intent on privatizing the Azerbaijani economy, SOCAR and the oil sector remain heavily nationalized (Hoffman 1991).

Lastly, the level of corruption that exists within the Azerbaijani oil sector is worth mentioning. SOCAR has been blamed for numerous scandals of "missing" oil and oil products throughout its tenure: as Hoffman (2000) writes, "SOCAR's close personal ties to the President, and the resulting near-exemption from third-party regulatory oversight, permits the formation of numerous informal revenue streams within the oil industry" (Hoffman 2000: 190).

NOC Presence
Coded 1 from 1992 to 2015.
NOC Ownership
Coded 1 from 1992 to 2015.
Production Status
Coded 1 1992 to 2015.
Majority Production Status
Coded 0 for all years since SOCAR is never a majority producer.
Regulatory Capacity
Coded 1 from 1992 to 2015.
Competing NOC
Coded 0 for all years.

Bahrain

Given the paucity of information on the nationalizations in Bahrain, the case analysis of Bahrain is relatively thinner than those for the other five Gulf states. In terms of its entry into the global oil market, oil was first exported out of the state in 1935 by subsidiaries of the IPC consortium. The concession system, similar to the one contracted in Abu Dhabi, was negotiated between the Western oil companies and the Al Khalifa family through Sir Charles Belgrave, the de facto ruler of Bahrain up until the 1950s (Herb 1999). After Belgrave's departure in 1957 (due to public pressure to rid the state of overly strong British influence), the shaykhs of the Al Khalifa maintained favorable ties to the Western-backed IPC consortium, for they had no other means of extracting what little oil Bahrain had to offer. Thus, the family allowed BAPCO, the IPC's Bahraini subsidiary owned by Caltex, to operate under favorable concessionary terms.

Despite the existence of strong public opposition to British and Western influence throughout Bahrain's early history, outright nationalization of the Western-operated oil sector did not occur until 1975. Participation reached 60 percent before 1975, but public pressure to exclude the West had grown too strong to ignore. This pressure was the combined result of an extraordinary lasting presence of pro-Nasserites in Bahrain as well as popularly-held grievances against BAPCO as an agent of British colonialism with its employment of primarily foreign – British and American – workers in the oil sector (Al-Mdaires 2002). The existence of OPEC in the early 1970s allowed additional cover from strong international response to ownership changes in the oil sector.

Thus, the Al Khalifa began a buy-out of BAPCO in 1974 and created a fully state-owned NOC in 1976 with the founding of Bahrain National Oil Company (BANOCO). In 1981, Caltex still retained a 40% share, but by 1997 BAPCO was fully owned by the government (Bapco website). In 1999, the government issued a legislative decree eliminating BANOCO as a separate entity and effectively merging it with BAPCO, which became a joint stock company known as "Bahrain Petroleum Company B.J.S.C." (Legislative Decree no. 42).

Regulation authority was vested in the Supreme Oil Council, independent from the NOC, since 1980. The Supreme Oil Council was then replaced by the Ministry of Oil, and then in 2005 by the National Oil and Gas Authority which was established by Royal Decree no. 63 (NOGA website). NOGA remains in charge of the supervision, organization, and development of Bahrain's oil sector.

NOC Presence
Coded 1 for all years since 1974 (inclusive) when the government obtained a 60% stake in BAPCO through 2015.
NOC Ownership
Coded 1 from 1976 (when the government established BANACO) to 2015.
Production Status
Coded 1 for all years (1974-2015) since the initial Bapco consortium company was fully integrated.
Majority Production Status
Coded 1 from 1982 (when BANACO became the majority producer of oil in Bahrain) to 2015. Coded 0 all years prior.
Regulatory Capacity

Coded 1 from 1976 to 1980 since BANACO was initially established to "administer the government's share in BAPCO, oversee exploration concessions, and manage domestic marketing of petroleum products" (USGS 1977). Coded 0 from 1980 to 2015, since the regulatory authority has been independent of the NOC beginning with the establishment of the Supreme Oil Council in 1980.

Competing NOC

Coded 0 for all years.

Bolivia

Oil had been discovered as early as 1875 but large-scale production did not commence until Standard Oil began its tenure in Bolivia in 1918. At the time, the government owned rights to subsoil resources and offered oil concessions to prospective foreign operators but the arrival of Standard aroused nationalist sentiments. Klein (1969) notes that some government officials argued that "Bolivia's petroleum potential should be developed by native capitalists rather than foreign interests…To [Bolivian conservative leaders] petroleum represented a kind of mystique of national sovereignty and for the next fifteen years Standard Oil remained one of the most bitter issues in national politics" (Klein 1969: 80-81, cited in Philip 1982: 193). Fear of foreign takeover of the country's subsoil resources by Western trusts became the lynchpin for nationalist sentiments and the eventual expropriation of foreign assets (Philip 1982: see pp 196-197).

Fed up with Standard Oil's deception and clandestine maneuvers – it had artificially deflated the country's known reserves and secretly began to take back machinery from distribution and refining centers – the new, left-wing Toro regime nationalized Standard's assets and set up the Petroleum Ministry in May 1936 (Philip 1982). A few months later, in December 1936, the regime established a NOC, the Yacimientos Petroliferos Fiscales Bolivianos, commonly known as YPFB. (Klein 1969). In January 1937, YPFB took over all non-Standard oil concessions and in March of that same year, the company expropriated Standard's concessions as well, making YPFB the sole producer and operator of Bolivian hydrocarbons.

YPFB was originally set up to explore and develop the Santa Cruz area as part of a joint venture with YPF, in accordance with a deal made with the Argentinean government to put pressure on Paraguay to resist from going to war again with Bolivia (Philip 1982). Indeed, Philip (1982) notes that "the state of domestic politics in Bolivia at that time made it far easier for the nationalization to take place even if it was indeed to appear as an issue of domestic politics and as a triumph rather than as a further surrender. In some manner, therefore, the nature of which is not entirely clear, all three factors (Standard's actions, Standard's weak position in Bolivia, and foreign policy with Argentina) combined to produce this particular effect" (Philip 1982: 198).

In 1953, a 'liberal oil code' was passed (ratified in 1955) with pressure from the US government to allow foreign investment and foreign operators back in the country. Foreign operators such as Gulf Oil and Shell were offered concessions throughout the country and even offered concessions on plays owned and explored by YPFB. YPFB did benefit somewhat from these agreements, since a part of the concession sales were given to the company as a kind of royalty, though this did not make up for YPFB's production and revenue shortfalls during the 1957-1962 period. Further, its share in operations began declining (YPFB was no longer the majority producer from 1955-1970) due to the presence of Gulf Oil in the sector. This was resolved with the nationalization of Gulf Oil in 1969 and in the 1970s with the rise in oil prices, YPFB increased its operations and became quite profitable, despite the turbulent political landscape (Philip 1982).

In 1971, YPFB regained majority producer status and maintained it until 1994. Once foreign oil companies began to return in 1973 (when a new law was passed allowing their return), the state commenced a PSA-style contract negotiation scheme following Petroperú's lead in 1971. This period also marked the use of YPFB as a manager and overseer of foreign operators, a task it had

previously not undertaken (USGS 1973; (Reseña Historica, n.d.). Prior to 1973, the Ministry of Mines and Oil, set up in 1936 by Toro's government, was the regulatory authority.

Privatization began in 1993 with the election of president Gonzalo Sanchez de Lozada, who privatized the company in 1994 under the Capitalization Law which allowed 49% of the company to be owned by private investors. This law was solidified later in 1996 under the Hydrocarbons Law, which also set up a tax-and-royalty concession system allowing foreign IOCs (Total, BP, and Repsol) into the oil sector without production sharing (Vargas 2007). During the privatization period, YPFB lost its operating capacity but remained a regulator.

However, by 2004 Bolivian citizens began to grow restless with the foreign operators' take from oil and gas production and pressed the government for nationalization. By 2005, new president Evo Morales fulfilled that desire with the 2005 Hydrocarbons Law (Law 3058 on May 17) and re-nationalized the industry to take back complete control of YPFB while offering IOCs PSAs, operating contracts (like 'buybacks'), or association contracts with the terms that the state maintains ownership of reserves *and* production (Vargas 2007). A further nationalization of reserves and production occurred in 2006 with Evo Morales' Supreme Decree no. 28701 in 2006 mandating that all IOCs hand over *all* production to YPFB at the wellhead (Vargas 2007). (The renegotiation of contracts was not completed until 2007, however, and this is reflected in the coding for production status). Under this new petroleum regime, foreign companies (namely Petrobras and Repsol) still play a key role in the sector despite unfavorable investment terms.

NOC Presence
Coded 1 from 1936 to 2015 (since the government maintained at least 51% share during years of privatization).
NOC Ownership
Coded 1 for years 1936-1994; coded 0 from 1995-2004 when oil industry was privatized; coded 1 again beginning in 2005 and up to 2015.
Production Status
Coded 1 from 1936-1994; coded 0 during years of privatization, 1995-2004; coded 1 from 2007 to 2015.
Majority Production Status
Coded 1 from 1936-1954; coded 0 from 1955 (when Gulf Oil took over as majority producer as a result of concessionary agreements) to 1970; coded 1 from 1971-1994; coded 0 during years of privatization, 1995-2004; coded 1 again from 2007 to 2015.
Regulatory Capacity
Coded 1 from 1973 to 2015; coded 0 all years prior.
Competing NOC
Coded 0 for all years.

Botswana

In 2013, the government of Botswana created Botswana Oil Limited, a wholly-owned NOC mandated to facilitate participation in the oil industry, administer the security of the petroleum supply, and manage state reserves of petroleum. The company does not appear to have regulatory oversight over the industry and is currently not involved in any upstream operations.

NOC Presence

Coded 0 from 1966 to 2012; coded 1 from 2013 to 2015.

NOC Ownership

Coded 1 from 2013 to 2015.

Production Status

Coded 0 for all years.

Majority Production Status

Coded 0 for all years.

Regulatory Capacity

Coded 0 for all years.

Competing NOC

Coded 0 for all years.

Brazil

Prior to 1930, oil exploration in Brazil was limited by laws that gave E&P rights to provinces and local landlords coupled with the lack of interest from foreign operators. The 1930s however brought a period of policy reform as consumption increased (due to post-depression industrialization). The Constitution of 1934 "reserved Brazil's subsoil wealth to the republic, and transferred to the federal government the exclusive power to authorize private companies to search for and develop mineral resources, although oil distribution remained in private hands" (Randall 1993: 9).

Fear of limited access to oil in time of war spurred discussion of "the need for state intervention in the sector and for the nationalization of reserves" (Philip 1982: 229) in Getulio Vargas' "Estado Novo" regime (1937-1945). Vargas formed a secret oil council in 1938 which led to the National Petroleum Council (CNP), Brazil's first NOC. CNP had little money from the state, and while it did not have a monopoly, it did dominate the (underdeveloped) oil sector and made its first discovery in 1939 in Bahia (Randall 1993). CNP also had oversight power over the nascent sector (Philip 1982).

By the 1940s there was some clamoring for increased private investment to raise enough capital to pursue more E&P, but given the wartime climate and national security concerns, the state did not allow foreign participation. This was around the time of the creation of the "oil is ours" campaign by CNP's managing director Horta Barbosa. Oil remained nationalized and CNP continued modest production until Vargas, having run on a presidential platform "that included a state monopoly" (Randall 1993: 9), submitted a bill to the legislature for the creation of a NOC with 51-percent state control in 1951. This came to be called Petrobras, a NOC with access to private capital. The law was not formally ratified (after much debate) until 1953, which marked the creation of Petrobras officially and formalized the exclusion of foreigners from most activities (except parts of the downstream refining sector).

Randall (1993) and Philip (1982) both argue that the decision to nationalize was driven primarily by national security concerns and nationalist sentiment. Randall describes this process:

> "The evaluations of the law creating Petrobras have depended on whether economic or political factors are emphasized. Oil prices change cyclically. The sharp increase in oil prices was not foreseen in the 1950s when Brazil's oil-based energy policy was chosen…General Arthur Levy summarized the nationalist sentiment that led to the formation of Petrobras: 'Energy is the motor of development and it is the heart of the national organism and therefore should be Brazilian…No one lives with a borrowed heart!" (Randall 1993: 10).

There was of course opposition to national control of oil. General Juarez Tavora "believed that foreign firms would do a better job of exploration, and that the simple existence of cheap and abundant oil would benefit the economy" (Randall 1993: 11). However, Tavora and his allies were ignored with the adoption and ratification of the national monopoly and xenophobic legal framework. This basic framework held even through a retaliatory, U.S.-led freeze of loans to Brazil in the 1960s and the 1964 military coup that followed (which did, in fact, alter the management of Petrobras, though not its legal entitlements to national control of oil).

In the 1990s, the state began to relax its monopoly of oil through constitutional amendments which modified the previous prohibition against concessions, and ultimately through the passage of Law no. 9478 in 1997. In addition to solidifying the state's policy of allowing other state-owned and private companies to participate in exploration and production, the 1997 oil law also established the National Council on Energy Policy and the National Petroleum Agency, a regulatory body charged with the implementation of the new legal regime.

NOC Presence
Coded 1 for the period 1938 to 2015 to reflect the creation of CNP and then Petrobras.
NOC Ownership
Coded 1 for CNP years only (1938-1952) and 0 thereafter because Petrobras was not fully state-owned (only 51% state ownership).
Production Status
Coded 1 from 1938 to 2015 since both CNP and Petrobras had production capacity.
Majority Production Status
Coded 1 from 1938 to 2015.
Regulatory Status
Coded 1 for CNP years (1938-1952) but 0 for Petrobras years (1953-2015) since Petrobras was not given oversight power.
Competing NOC
Coded 0 for all years.

Brunei

The Sultanate of Brunei has existed since the 12th century but only achieved independence from Britain on January 1st, 1984, when it renounced its status as British protectorate. The oil history of Brunei dates back to 1899, when oil exploration in Borneo was in the hands of Shell, which made a discovery at Bandar Seri Begawan.

Upon independence, however, the state did not nationalize its industry, but instead opted for a government participation contract with Brunei Shell Petroleum Company. Participation was at 50 percent, and the government engaged in profit-sharing agreements with other foreign operators in the oil sector, notably Elf Aquitane (now Total). From 1984-2007, Brunei Shell Petroleum Co. Sdn Bhd. was a 50-50 joint venture of RD/S and the Government of Brunei. In 2002, however, the government decided to create a NOC to oversee the oil and gas sector, while still allowing Brunei Shell Petroleum to continue production. In 2010, the company signed a PSA with Petronas for an offshore oil bloc and began drilling onshore, thus becoming more vertically integrated. However, as of 2015, the NOC has not officially commenced production (company website). Participation in Brunei Shell Petroleum meanwhile has not increased from 50%.

It should be noted that the natural gas sector of Brunei is also structured in a participatory manner, with the state holding a 33% share in Brunei LNG Sdn. Bhd. (a domestic private company) in 1984, which was increased in 1986 to 50% (USGS).

NOC Presence
Coded 1 beginning in 2002 reflecting the incorporation of PetroleumBRUNEI and continuing to 2015. Coded 0 for all years prior.
NOC Ownership
Coded 1 from 2002 to 2015 as PetroleumBRUNEI is 100% state-owned.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 2002-2015 to reflect PetroleumBRUNEI's regulatory authority; 0 all years prior.
Competing NOC
Coded 0 for all years.

Cameroon

The first commercial discovery of oil was made in the Rio del Ray Basin in 1972 and on March 12, 1980, the government set up a national oil company, Société Nationale des Hydrocarbures (SNH). SNH was established not to explore or produce but to manage licensing contracts and facilitate the transfer of the government's share in oil revenues to the Public Treasury. Independent companies are responsible for the vast majority of oil production in Cameroon and most of them operate under Production Sharing Agreements which are quite favorable to the government (capturing about 65% of the oil rent) (Djiofack and Omgba 2011). As Gauthier and Zeufack (2009) note, "At the core of the sector is a public corporation directly controlled by the presidency: The National Hydrocarbons Company (Société Nationale des Hydrocarbures, SNH). The public corporation is the main joint venture associate in oil production, the transit of the overall government oil take, as well as the sector regulator." This is permitted by Cameroon's legislation as the oil code (1999) allows the State to designate "an intermediary" to manage and regulate the sector.

Initially, SNH had only downstream and midstream assets (for transportation of oil) and has capacity to refine and distribute crude (Soares de Oliveira 2007: 95). Oil production has been declining steadily since the late 1990s, due to shrinking reserves. As a result, oil revenue as a percentage of government revenue and as a percentage of GDP has been decreasing over time (Soares de Oliveira 2007: 152n). However, oil has remained a significant part of the Cameroonian economy and as of 2007, made up 33% of the government's revenues (Gauthier and Zuefack 2009). In 2013, SNH began production in the Mvia field, it's "sole operated asset" (Mbasogo 2015).

SNH is one of the more difficult NOCs to document due to a paucity of public information and allegations concerning the company's illicit handling of oil revenues.

As Gillies (2008) quotes from an interview with a former SNH executive: "SNH money is state money only more accessible". These expenditures are not part of the budgetary processes and therefore less transparent and receive less scrutiny.

However, beginning in the 1990s, successive attempts have been made to make the government of Cameroon and its oil sector more transparent. These reforms were largely instigated by the IMF and World Bank, both of which were involved in helping Cameroon undergo structural adjustment in order to address the country's poverty and corruption. In 2005, Cameroon became a member of Extractive Industries Transparency Initiative, and started allowing its oil sector data to be submitted to an independent third party for review and disclosure to the public. As well, the prime minister signed a decree aimed at reforming the budget process to become more transparent by expanding budgetary allocations for the ministries which formerly received extra-budgetary cash advances (Cosse 2006).

NOC Presence
Coded 1 for all years since the establishment of SNH in 1980 (inclusive). Coded 0 all years prior.
NOC Ownership
Coded 1 from 1980 to 2015. Coded 0 all other years.
Production Status

Coded 0 for all years through 2012; Coded 1 beginning in 2013 with production from the Mvia field.

Majority Production Status

Coded 0 for all years given that independent oil companies are responsible for the majority of production.

Regulatory Capacity

Coded 1 for all years.

Competing NOC

Coded 0 for all years.

Canada

Canada was one of the world's first oil producers, with the Williams No.1 well striking oil in 1862 (some claim this happened in 1859, making it earlier than the Drake well in Titusville, PA). The early oil rush years resembled those of the United States, with wildcatters dominating Ontario and Alberta. For much of its oil history, the oil sector was completely privatized. However, the 1970s brought a period of steep recession in Canada. With rising prices from the oil shock of 1973, the state believed that its reliance on foreign oil must be reduced in order for the Canadian economy to get back on track. The opposition New Democratic Party (who are social democrats) joined with the incumbent Prime Minister Trudeau (of the minority Liberal Party) to draft legislation that would allow state control over the oil sector, particularly in Alberta, the source of the bulk of Canadian production. After much debate within parliament and among the provinces, in 1975 the Canadian government established a NOC, Petro-Canada, a majority-state-owned oil company and a Crown corporation of Canada. It did not, however, expropriate assets nor did it force private investors out of the market; rather, it was built on the existing government stakes in Panarctic Oils Ltd. (state owned 45%), and its 12% share in Syncrude. The company began operations in 1976.

Petro-Canada was simply yet another operator in Canada's oil fields, working side by side with the IOCs. Petro-Canada had production capacity, but no oversight, nor was it close to being the majority producer (USGS). Petro-Canada was not expected to perform non-commercial activities, save the requirement that it sell its crude to Canadians and not abroad.

In 1980, the newly elected Liberals (who had briefly lost power in 1979 to the Progressive Conservatives) enacted a broad-sweeping National Energy Policy which raised taxes on private oil companies and provided Petro-Canada easier access to crude (Jenkins 1986). However, the administration of PM Brian Mulroney (1984-1993) of the Progressive Conservative Party began its reform of the economic sector and by 1990, had announced privatization of Petro-Canada. In 1991, the company was privatized by Petro-Canada Public Participation Act (S.C. 1991, c. 10) and the government offered the first stage of public shares (30% of the company was privatized). By 1995, the government had sold its majority shares and retained 19% of the company. Finally, in 2004, the government sold its remaining shares and in 2009, Petro-Canada merged with the private firm Suncor.

NOC Presence
Coded 1 from 1975-1995 during the Petro-Canada years; coded 0 all years before and after.
NOC Ownership
Coded 0 all years as Petro-Canada was never fully state-owned.
Production Status
Coded 1 beginning in 1976, the first year of operations, and through 1995. Coded 0 all other years.
Majority Production Status
Coded 0 all years.
Regulatory Capacity
Coded 0 all years.
Competing NOC
Coded 0 for all years.

Chad

Oil was discovered in Chad in 1974 near Rig Rig, north of Lake Chad, by Conoco and a small consortium including Shell, Chevron, and Exxon (exploration began in 1970). Estimated reserves were relatively small (around 438 million barrels) with very little oil being exported in the first ten years of production. The 1980s drop in oil prices and the chronic violence of Chad's civil wars made exploration and production in Chad economically unattractive for IOCs, which had suspended all new exploration and production by 1986 (Collelo 1990).

Not until "democratization" in 1991, initiated by warlord-turned-president Idriss Déby, and the rebound of oil prices in the late 1990s did oil production fully resume. The construction of a new pipeline connecting the Doba fields in the south with the Gulf of Guinea via Cameroon began in 2000 (after seven years of planning and negotiation) and was completed by late 2003, allowing for larger investments in Chad's southern fields (Eriksson and Hagströmer 2005). Alongside Exxon Mobil, Chevron, and Petronas, the state-owned TOTCO manages the Chad portion of the pipeline. This company is the closest thing the country had to a national oil company, but it is only involved in pipeline management (and no other downstream or upstream activities). It is thus not coded as a NOC since it is really only a transportation company: it does not even oversee or contract with IOCs in E&P. In 2006, however, the state created a wholly-owned national oil company, Société des Hydrocarbures du Tchad. A 2016 report by the IMF describes the function of NOC:

> The SHT has a broad mandate permitting it to engage in the whole oil value chain: prospecting, exploration, development, production, and transport. Its activities can also include refining, and the storage and distribution of refined products. However, the 2011 Contract, stipulates that the SHT is not a regulator, and that only the Government has the right to issue licenses. Also, the Government receives all payments from companies other than the RIK, explicitly assigned to the SHT.

In terms of the ownership structure of the oil sector, the Chadian state formerly did not engage in production sharing agreements or unfavorable contracts with IOCs, and only takes a small take from oil sales in the form of concessionary agreements and royalties: a 12% tax is applied to IOC sales and the state collects roughly 28% of the total value of oil production, paltry compared to the average 60% take in surrounding countries (Eriksson and Hagströmer 2005). This arrangement was first negotiated in 1988 between the Habré regime and the IOCs and further revisions in 1992 and 1997 did not dramatically alter the terms of agreement. The 1988 oil agreement essentially mandates that the state engage only in concessions and not PSAs, entitling IOCs to extract hydrocarbons from agreed-upon blocks and pay a 12.5% royalty upon extraction (Eriksson and Hagströmer 2005). Since the creation of SHT, the government has played more of a participatory role in the sector, securing an ownership stake in the country's main producer, the Doba Consortium, in 2014 (IMF Country Report 2016).

NOC Presence
Coded 0 from 1960 to 2005. Coded 1 from 2006 to 2015, beginning with the creation of SHT.
NOC Ownership
Coded 0 from 1960 to 2005. Coded 1 from 2006 to 2015.
Production Status
Coded 0 from 1960 to 2015.

Majority Production Status
Coded 0 for all years since production is mainly handled by foreign IOCs (primarily Esso).
Regulatory Capacity
Coded 0 for all years since SHT is not mandated to regulate the sector.
Competing NOC
Coded 0 for all years.

Chile

Exploration for commercial oil deposits in Chile began as early as 1926 when a Standard Oil subsidiary persuaded the government to allow the sale of concessions for hydrocarbon exploration (Philip 1982). In 1928, though no significant oil plays had yet been discovered, the government passed a law enabling a government monopoly over the exploration and (future) production of oil and gas "at a later date" and in 1932 passed another law creating a nationalist monopoly of oil imports, distribution, and marketing (Philip 1982: 183). However, full-scale nationalization did not occur at this time, since the state had not set up any kind of NOC and therefore had no capacity to produce or extract oil (or even distribute it). As such, the government was forced to allow oil imports from the USSR since there was no significant production within Chile. At this time (the 1930s) a state-owned oil company had been founded, by the name of Copec, but it was limited to downstream operations only and had no plans for E&P. In 1985, Copec was privatized and bought out by a New Zealand firm (Philip 1982, Jilberto 2004). Further, pressure from the U.S. government prevented the Chilean government from expropriating assets and forming a NOC in 1939 (Philip 1982).

Nonetheless, the Popular Front government (elected in 1939) decided to establish a state-owned and -funded investment bank, Corfo, to assist in the broad industrialization of the Chilean economy. In 1940, Corfo began exploration in the southern cone with the assistance of Western petroleum engineers and geologists, eventually finding oil in 1945 and producing it by 1950 (Philip 1982). Since Corfo was not a state-owned company but rather a bank which hired outside help for drilling and production, the 1940-1949 period is coded 0 for all questions.

Despite pressures from the UK and the US, the Chilean government finally gained a complete monopoly over E&P and established a national oil company in the form of ENAP with the passage of new legislation in 1950 (Philip 1982). ENAP, which stands for Empresa Nacional del Petróleo S.A., was built on the foundations of Corfo and had acquired all of Corfo's operations and assets in the hydrocarbon sector (Anderson 2004). The company continued as a state-owned firm despite pressures during the 1974-1982 wave of privatizations, but sale to private owners was eventually considered in the years following (Jilberto 2004). Despite offering ENAP's shares to a combination of stockholders (company employees, domestic investors, and privately-owned pension funds) the government ultimately withheld the sale of ENAP in late 1985, maintaining its 100% stake in the company (see "Chile: U.S. Firms Win Controlling Shares in State-owned Firms" *Inter Press Service* 18 Dec 1986). It has remained fully state-owned since then, but ENAP did create a semi-private subsidiary, Sociedad Internacional Petrolera S.A. (now ENAP Sipetrol S.A.), in 1990 to manage E&P in the international market outside of Chile (ENAP website).

With reserves in 2004 estimated at only 150 million barrels, the Chilean oil sector has not attracted much attention from foreign IOCs who have only historically been involved in downstream/distribution operations; thus, ENAP has always been the majority producer in the country (Anderson 2004). In an oil and gas regulation report, authors Novoa & Araya (2012) report that ENAP's founding law allow "ENAP certain legal prerogatives in order to impose easements or right of way to third private parties. Law No. 9,618 authorizes ENAP to develop its legal purposes, directly or through other companies in which it may participate" (38). In 2009, however, the Chilean government created the Ministry of Energy which has since been responsible for handling petroleum contracts.

NOC Presence
Coded 1 from 1950, marking the creation of ENAP, to 2015.
NOC Ownership
Coded 1 from 1950 to 2015.
Production Status
Coded 1 from 1950 to 2015.
Majority Production Status
Coded 1 from 1950 to 2015.
Regulatory Capacity
Coded 1 from 1950-2008; Coded 0 from 2009 to 2015, reflecting the creation of the Ministry of Energy.
Competing NOC
Coded 0 for all years.

China

From the initial stages of the establishment of the Republic of China, Mao Zedong ordered that the exploration and production of oil be seen as an element of national security. In 1949, Mao created an "oil division" of the People's Liberation Army to manage oil production with the ultimate goal of the PRC to attain self-sufficiency. Ultimately, the authority over the oil industry was given to the State Planning Commission as is the norm for communist centrally planned economies (Jiang 2011). While this is not a formal NOC, it is coded as such given the state's complete control over the oil industry.

A formalized state-owned enterprise emerged in 1955 with the state's creation of a Ministry of Petroleum Industry (MPI) to carry out the State Planning Commission's five-year plans. Jiang (2011: 12) notes: "As the headquarters of China's nascent oil industry, (the MPI) was responsible for making investment decisions (e.g., the location and timing of E&P projects), coordinating the transportation and distribution of oil products, and allocating oil resources to petroleum administrative bureaus (PABs). Each of these local agencies managed a particular oil field and was responsible for meeting the production targets that the SPC set out in the national plan." Furthermore, this system of administration facilitated the dominance of oil industry leaders in the political arena, "with local governments also coming under the authority of the various petroleum bureaucracies. The director of the Daqing Petroleum Administrative Bureau, for example, was also mayor of the city government" (Meidan 2016). Despite the challenges that came to this set up during the Cultural Revolution (1966-76), significant discoveries of oil fields were made during the Maoist era and both production and consumption continued to rise.

By 1988, however, the oil industry was in dire straits: ageing, maturing oil fields coupled with lack of investment in exploration led to higher debt levels and the risk of insolvency. In response, the state reformed the industry and "corporatized" the MPI by giving operations and oversight responsibilities to several state-owned enterprises. The biggest of these was the Chinese National Petroleum Company (CNPC), a 100%-owned state-owned vertically integrated oil company which became the industry's leader in E&P and regulation (USGS). Other NOCs created at this time include Sinopec (in charge of downstream operations), Chinese National Offshore Oil Company (CNOOC, in charge of offshore production), China National Star Petrochemicals Co., and China Oilfield Service, Ltd. (the state-owned service company). Prior to 1988, the NOCs were financed using state capital, monitored by the Bank of China and the Ministry of Finance. However, reforms in 1988 in the face of government perceptions of NOC inefficiency led to increased autonomy of the NOCs in the form of self-financing. Starting in 1988, the NOCs would be responsible for their own losses, profits, revenues, and growth (Jiang 2011).

Further reforms in 1998 (yet again due to troubles in the NOCs' financial situation) led to a stronger grip over the oil sector. Instead of allowing the NOCs to be responsible for their own profits, the state re-centralized the oil sector, leading to closer ties between state and NOC in the form of access to state capital (and of course increased monitoring of how capital was used). Another key element of the reforms, starting in 1999, was the consolidation of market power in two NOCs – Sinopec and CNPC – instead of just one running the show; what's more, the state decided to publicly sell some of the NOCs' "non-core assets" on the Hong Kong stock exchange

in 1999. Thus, the NOCs were no longer fully state-owned, as their non-core assets were partially privatized (with the state still controlling majority shares) (Jiang 2011).

NOC Presence
Coded 1 from 1949-2015 covering the years of the "oil corps", the Ministry of Petroleum, and the bevy of NOCs after 1998.
NOC Ownership
Coded 1 from 1949-1998 to reflect the break of full ownership after 1998. Coded 0 thereafter.
Production Status
Coded 1 from 1949-2015.
Majority Production Status
Coded 1from 1949-2015.
Regulatory Capacity
Coded 1 from 1949-2015 (despite fluctuations in the legal structure of the oil sector, the NOCs maintained considerable authority to develop production through entering into and implementing contracts both on and offshore)[2]
Competing NOC
Coded 1 beginning in 1955 with the creation of the Ministry of Petroleum Industry and the division of production between the petroleum bureaus and continuing until 2015.

[2] See "Regulations of the People's Republic of China Concerning the Exploitation of Onshore Petroleum Resources in Cooperation with Foreign Enterprises" (promulgated into law in 1993, amended in 2001) and "Regulations of the People's Republic of China Concerning the Exploitation of Offshore Petroleum Resources in Cooperation with Foreign Enterprises" (promulgated into law in 2001).

Colombia

Small oil deposits had been found as early as 1905 in Colombia, and commercial production by Standard Oil (of New Jersey) began in 1927 (Philip 1982; Echevery et al. 2008). Gulf Oil had been involved in earlier exploration, but its contract concession was cancelled in 1926 by the Colombian government, though not for nationalist or protectionist reasons. From this early period onward, the Colombian government had what Philip (1982) refers to as "[oil] legislation which was cumbersome rather than nationalist" (Philip 1982: 69). Standard continued operating in Colombia with its primary investment in the De Mares concession, where exploration began in 1910. By 1950, the 40-year concession was up for renewal, but Standard declined to continue for political reasons. It had become apparent, after the establishment of a new state company named Ecopetrol in 1948, that the Colombian government would take over the operations of the concession (Philip 1982).

The new NOC was established on the existing assets of the U.S.-owned Tropical Oil Company, which had been established in 1921 to explore and develop the Cira-Infantas field in the northeast (Ecopetrol n.d.). The Colombian government founded Ecopetrol by Law 165 as "a state-owned industrial and commercial company in charge of administering the nation's hydrocarbon resources, and grew as other concessions reverted and became part of its operation" (Ecopetrol n.d.). It did not have production capacity until 1951 but was given oversight over the other operators in 1948. In 2003, regulation and oversight was handed over to the National Hydrocarbons Agency (ANH) in accordance with Decree 1760 in June 2003 (Ecopetrol n.d.). The ANH is attached to the Ministry of Mines and Energy but operates autonomously. Among other functions, the ANH is mandated to "design, promote, negotiate, enter into and manage contracts and agreements for exploration and exploitation of hydrocarbons owned by the nation, with the exception of contracts of association held by Ecopetrol until December 31, 2003, as well as monitoring the fulfillment of all the therein obligations" (ANH website n.d.).

During the years leading up to1983, Ecopetrol operated in joint-venture-like agreements in maturing oil fields, with few new finds coming online and output slowly declining to the point where, in 1975, the country became a net importer. Then, in 1983, Occidental and Ecopetrol, in a joint venture, discovered significant prospects at the Caño Limón fields (>500 million barrels recoverable reserves) which made the country a net exporter (Dunning and Wirpsa 2010). Continued involvement of American and British oil companies was not challenged by expropriations or outright nationalization, allowing BP and Occidental to remain the key producers and operators of the country's fields in favorable joint ventures with Ecopetrol.

Starting in 1993, fewer and smaller oil fields were being discovered, and "as a result output fell from peak production of over 800,000 barrels per day (bpd) in 1999 to nearly 550,000 bpd in 2004" (Open Oil n.d.).[3]

Partial privatization of Ecopetrol began in 2006 and continued in 2007 with the passage of legislation that allowed for public offering of up to 20% of the company's shares (Ecopetrol n.d.). According to law 1116, signed in December 2006, no single private company would be

[3] Colombia Oil Almanac: An OpenOil Reference Guide

allowed to own more than 3% of the company's shares. As of 2016, the government of Colombia retains an 88.49% stake in Ecopetrol (Ecopetrol n.d.).

NOC Presence
Coded 1 from 1948 to 2015.
NOC Ownership
Coded 1 from 1948 to 2006. Coded 0 from 2007 after the government ceased to have 100% ownership of the company.
Production Status
Coded 1 from 1951 to 2015.
Majority Production Status
Coded 0 for all years as Ecopetrol was never the majority producer of oil.
Regulatory Capacity
Coded 1 from 1948 to 2003 and then 0 thereafter given that the company lost oversight power to ANH beginning in 2004.
Competing NOC
Coded 0 for all years.

Congo-Brazzaville (coded as Congo)

Ravaged by civil war for much of the 1990s, Congo-Brazzaville has maintained production levels despite the violence of four wars in 1993, 1997, 1998-99, and 2002. There is some evidence that hydrocarbon rents had motivated these conflicts, but it is likely that oil rents also helped the country work towards stability and peace: Englebert and Ron (2004) find that "Congo's massive oil reserves…helped elevate class interests over ethnic solidarity, permitting neo-patrimonial logic to trump ethno-regional secessionism or warlordism." (Englebert and Ron 2004: 63). Further, much like Angola, Congo's oil reserves were untouched during the civil wars since the vast majority of its oil is located offshore. As such, violence was limited mostly to the environs surrounding Brazzaville and rarely spread to rural regions or coastal areas populated with valuable oil infrastructure (Englebert and Ron 2004).

Historically, Congo's oil sector has been inexorably tied to the country's colonial partnership with French companies, most notably Elf Aquitane, now a part of Total. Oil has been commercially produced since at least 1957, three years before independence from France, with more significant production levels beginning in 1972-1973 with the discovery of large offshore deposits (BP *Statistical Review* 2009; Hodgkinson 2003). The majority of production is and has been operated by Total (operated by Elf Aquitane before the merger), along with Italy's AGIP and other IOCs (Englebert and Ron 2004).

In 1998, the Congolese government passed legislation creating a NOC, Societé Nationale des Pétroles du Congo (SNPC). Prior to SNPC, Hydro-Congo was the state's first attempt at a national oil company, founded in 1974. Hydro-Congo was not set up as a traditional NOC, as it was charged with control over only the downstream sector, holding a monopoly over the sale and distribution of Congolese oil until privatization of downstream assets began in 1990 and ended in 1998 with the creation of SNPC (Hodgkinson 2003). Its assets were transferred SNPC when Hydro-Congo was dissolved on December 10, 1999, and its downstream assets were either sold or shut down (in the case of its refinery, CORAF, which was shut down for four years before reopening in the late 2000s). However, since the company had no role whatsoever upstream, Hydro-Congo is not coded as a NOC.

SNPC does not play a significant role in the industry and is generally limited to the sidelines as a contract negotiator. It should be noted that the Ministry of Hydrocarbons also carries regulatory authority and, according to a Norton Rose Fullbright report (2013), the Council of Ministers is the body responsible for awarding contracts. However, a US State Department report highlights how SNPC maintains a very active role: "Corporate governance regulation of SOEs requires non-state corporate directorship. In practice, this requirement is not met, most notably by SNPC" (US Department of State 2014). SNPC also plays a role in the international marketing of the state's share of production (Englebert and Ron 2004). Given the complexity of Congo's oil reserves, the company is unable to produce or explore the country's petroleum assets, which are mostly offshore and in deep water.

In addition to its role as contract negotiator and marketer, SNPC also engages in non-commercial non-oil activities and is able to borrow against its oil revenues (Soares de Oliveira 2007). Regarding the latter, SNPC's most valuable arm was its trading and marketing subsidiary SNPC UK. This London-based company was owned by SNPC but managed by Western consultants

and law firms thus delinking the direct connection to the Congolese state. However, the subsidiary had borrowed so heavily against its oil that its failure to repay many of its debts led to its dissolution in 2005 (Soares de Oliveira 2007). Given SNPC's limited role in production, SNPC UK was the de facto revenue provider for the state since it was charged with the task of selling the government's share of production (which was roughly 30,000 bpd in 2002) though it was not a direct affiliate of the state (see "Congo-B: The Real Oil Bosses" *Africa Energy Intelligence* 13 Mar 2002). This is an interesting role for a NOC subsidiary, quite similar to Iran's NICO, also based in the UK. Further research could focus on the link between oil revenues and the state via nationally owned oil trading companies.

Regarding the legal capture of oil rents, the Congolese government uses a tax-and-royalty concession system as well as an agreement negotiated in 1991 that gives the state half of each company's oil profits; further, the state engages in PSA-style contracts with IOCs, giving SNPC some percentage of production at the wellhead, though exact figures and contract details are not released to the public (Englebert and Ron 2004). The EIA estimates that roughly one-third of production goes to the state which is then sold on behalf of the government by SNPC ("Energy Profile of Congo-Brazzaville"). This sale of oil has accounted for 75% on average of the government's revenues since the year 2000 (EITI 2013).

In 2010 SNPC gained its first operating interest in the onshore Mengo-Kundji-Bindi field and according to in 2014 was producing 700 barrels of oil per day, making it a minority producer (see http://www.theoilandgasyear.com/content/uploads/2015/02/Preview_TOGY_CONGO_2014.pdf).

NOC Presence
Coded 0 for the 1974-1990 period and for the 1991-1997 period of the company's privatization to TotalElfFina until the assets were assumed by SNPC in 1998 (Hodgkinson 2003). Coded 1 from 1998 to 2015.
NOC Ownership
Coded 1 from 1998 to 2015.
Production Status
Coded 1 from 2010 to 2015 and coded 0 for all years prior.
Majority Production Status
Coded 0 for all years
Regulatory Capacity
Coded 0 until SNPC was established in 1998. Coded 1 thereafter.
Competing NOC
Coded 0 for all years.

Congo-Kinshasa (coded as Congo, Dem. Rep.)

Production began with the discovery of offshore oil in the 1960s, with the first commercial production coming in 1970 by Gulf Oil, which had obtained a concession from the Congolese government (USGS, 1970). The government nationalized in 1999 with establishment of a fully stated-owned NOC, La Congolaise des Hydrocarbures (CoHydro), by Decree-Law 245 in August. The 1981 General Law on Mines and Hydrocarbons allows for production to be handled by foreign firms through joint ventures, PSAs, and concessionary agreements. The NOC itself does not produce but does regulate and manage the sector (USGS, multiple years). In 2015 however, the government passed a new petroleum law which reformed the process of awarding contracts and made separate "commercial functions of the national oil company from the policy making and regulatory functions exercised by the Minister of Hydrocarbons" (see "The Democratic Republic of Congo enacts new petroleum law: a mixed report).

It should be noted that corruption is rampant in Congo's minerals sector, with an estimated $1.36 billion in lost money during the 2010-12 period, estimated by a Global Witness report (2013).

NOC Presence
Coded 1 from 1999 to 2015; 0 beforehand.
NOC Ownership
Coded 1 from 1999 to 2015; 0 beforehand.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 1999 to 2015 for Cohydro's role in regulating licenses and bids (the new petroleum law was enacted towards the end of 2015 so subsequent years will be coded 0).
Competing NOC
Coded 0 for all years.

Côte d'Ivoire

Exploration for oil in Côte d'Ivoire began around 1940s, with over 300 wells being drilled throughout the decade. Despite initial modest findings of oil, the decades of the 50s and 60s showed next to no success for the oil industry and exploration slowed down.

According to USGS, "petroleum exploration and production is governed by the Petroleum Code (Law No. 70-849) of August 3, 1970, as modified by Ordinance No. 75-04 of January 3, 1975, and by Decrees No. 82-1008 of October 18, 1982, and No. 83-1008 of September 14, 1983" (1989). Beginning in the 1970s, the government decided to allow more foreign participation and created the national oil company, Petroci, in 1975. By 1980 the country's fields were producing oil, though Petroci maintained only financial interest in production and was not an operator itself (Clarke 2010, pp. 177-178).

There was a brief break in Côte d'Ivoire's oil production from 1992 to 1995 after the Belier Field was abandoned. The United Meridian International Corporation (UMIC) began operation of the offshore fields of Lion and Panthere and thus production resumed in 1995. Production expanded further in the early 2000s after Petroci opened up more blocks offshore (Clarke 2010, p. 179).

In 1998, Petroci was restructured into holding company consisting of three subsidiaries. As of 2013, Petroci was still not a producer though it did acquire majority stakes and began conducting its own exploration activities for block JV CI-11 (USGS, Petroci Annual Report 2013). Petroci also participates as a partner with minority stakes in other production sharing contracts.

As for regulation, the Ministry of Mines, Petroleum, and Energy ultimately oversees the oil and gas sectors through its Department of Hydrocarbons. The Interdepartmental Petroleum Commission is also involved as it provides technical reviews of applications for permits and contracts.

NOC Presence
Coded 1 from 1975 to 2015.
NOC Ownership
Coded 1 from 1975 to 2015.
Production Status
Coded 0 for all years
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Denmark

Oil exploration began in Denmark in the 1930's after the prime minister granted permission to conduct exploratory drilling to Frederick Ravlin, an American engineer. That permission turned into a formal concession which was granted to Ravlin's Danish American Prospecting Company (DAPCO) for a period of 50 years. Ravlin soon sold DAPCO to Gulf Oil and in 1950, Gulf Oil secured a new concession. Gulf Oil's exploration efforts were unsuccessful, however, leading to the sale of DAPCO to Esso who then gave up the concession in 1959 (Hahn-Pedersen 1999).

Despite these early setbacks, Danish shipowner A.P. Moller stepped up to continue oil exploration. In 1962, a formal law stating national ownership of subsoil resources was passed, though a minerals law declaring state ownership of all minerals broadly speaking (Law No. 181, 1950) was passed earlier, in May 1950 (USGS 1963: 411). The Dansk Undergrunds Consortium (DUC) was established with the passage of the "Sole Concession" on July 8th, 1962, and was led by the A.P. Moller-Maersk group. DUC's oil and gas arm was created as a state-owned firm with a 30% share in the consortium, with the other 70% owned by foreign multinationals. Thus, DUC is not coded as a NOC, since only 30% is owned by the state. DUC enjoyed a monopoly concession until 1983 when the government allowed private firms to explore the fields in an attempt to boost efficiency (USGS). It was not until 1972 that oil discoveries in the Danish-demarcated zone of the North Sea were made in the Dan fields.

In 1984, the Danish Oil and Natural Gas company (DONG), which had formerly been a downstream firm, replaced DUC. DONG, a fully-state-owned NOC, would initially hold somewhere between 20-30% of each private concession, but according to the USGS, this would increase to up to 50% in the event of a big find. This is akin to a PSA-style contract, and is coded as such starting in 1984.

DONG held a minority share in production, as Maersk and Hess were the dominant operators of Danish fields (USGS multiple years). Regulation of the oil industry is handled by the Danish Energy Agency as stated in the country's oil and energy legislation (International Comparative Legal Guide 2017).

In 2005, the Danish government established the firm Nordsofønden by law to "take part in all recent licenses on behalf of the state" (Nordsofønden website). According to International Comparative and Legal Guides (2016), "Nordsøfonden has been responsible for a 20% non-operating participation in all licences granted." A year later, the original NOC, DONG, was merged with five other oil and gas companies to create DONG Energy. During the merger, 27% of the government shares in DONG were transferred to utilities; the Danish state continues to hold a 50.1% majority share in the company while the remaining shares a held by private investors. During its existence, DONG Energy has transformed from a mostly fossil fuels company to a primarily renewable energy-driven company. In 2012, Nordsøfonden also became a part of DUC with a 20% share.

NOC Presence

Coded 1 from 1984 to 2015; coded 0 all years prior.

NOC Ownership

Coded 1 from 1984 to 2015 since at the time of DONG's partial privatization, the state created Nordsøfonden which is fully state-owned.

Production Status

Coded 1 from 1984 to 2015; coded 0 all years prior.

Majority Production Status

Coded 0 for all years given that neither NOC has been majority producer.

Regulatory Capacity

Coded 0 for all years since DEA is the regulator.

Competing NOC

Coded 0 from 1984 to 2004; coded 1 from 2005 to 2015 after the establishment of Nordsøfonden. DONG Energy remains majority state-owned and still participates in the oil and gas sector, alongside Nordsøfonden.

East Timor

The tiny demi-island nation of East Timor (Timor-Leste) achieved independence from Indonesia on May 20, 2002, following a bloody conflict with Indonesia which accounted for thousands of casualties and severely damaged the country's infrastructure. Before independence, oil and gas exploration was pursued without much success. In 2002, the newly formed state signed a joint development contract with Australia to develop the offshore hydrocarbon resources located beneath the shared maritime border between the two countries, whereby East Timor would receive 18% of revenues from the field and Australia would receive the remaining 82%. This contract was cancelled and rewritten in 2006 to revise the agreement terms in favor of a 50-50 revenue sharing agreement between Australia and East Timor.

All oil and gas operations are conducted by foreign multinationals, notably ConocoPhilips, Shell and Woodside. Government revenue is collected through traditional concession/tax-royalty contracts. The National Petroleum Authority, created in 2008, is the primary regulatory body that oversees the petroleum sector and awards production sharing contracts to participate in the Joint Petroleum Development Area (JPDA) through public bidding rounds ("Timor-Leste" 2013).

In 2005, the government passed a new Petroleum Act allowing for state participation in the oil sector through equity of up to 20%. Accordingly, a fully state-owned NOC was established in 2011 under the name Timor-Gap Empresa Publico. By law, Timor-Gap is automatically allowed 20% participation in Timor-Leste exclusive areas but must buy into any other joint venture projects in the JPDA. In 2013, the NOC entered into its first production sharing contract for an offshore exploration site (company website). The NOC does not yet have production status but is actively engaged in expanding its upstream activities with plans of becoming a fully integrated NOC in the future.

NOC Presence
Coded 0 for all years until 2010. Coded 1 beginning in 2011 when Timor-Gap was established as a fully state-owned NOC, and continuing up to 2015.
NOC Ownership
Coded 1 from 2011 to 2015; 0 all years prior.
Production Status
Coded 0 for all years as Timor-Gap is not yet a producer.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years given that regulatory authority has always been vested in government agencies.
Competing NOC
Coded 0 for all years.

Ecuador

Late to join the oil party, Ecuador did not begin large-scale commercial production of its oil reserves until 1972, though the country had produced trivial amounts of oil since 1918 (trivial here meaning under 10,000 bpd). Up until 1972, the government had a vague oil policy and, as Philip (1982) notes, "for many years, Ecuador levied few taxes, had no state company and knew extremely little about the industry" (Philip 1982: 274). The first petroleum law was passed in 1921, offering very little in the way of practical application, though it did allow outside firms to explore for oil under very favorable contractual rules offered in concessionary fashion to foreign operators (Martz 1987). A similar law was ratified in 1937 but was wholly reversed in 1938 by the Enriquez Gallo regime, with a new executive decree (Decree No. 45) which declared that all concessions would be "subject to the sovereign authority of the state" (Martz 1987: 48).

Small-scale production continued throughout the 1940-1967 period, with Shell, Standard, and a number of smaller companies exploring the Interior with only dry holes to show for their efforts. Production continued to lie only within the coastal areas until a consortium led by Texaco and Gulf Oil found promising plays in the Oriente in 1967 (Martz 1987). The extent of the geological surveying and exploration revealed significant reserves and by 1972, production in Ecuador surged to 80,000 bpd from 4,000 bpd for the previous year (Martz 1987).

Initial negotiations by the state to grab more oil revenues from the increasing production were no more than individual contract revisions. This changed in when the military overthrew the incumbent regime in 1972 and revised resource laws across the board: on June 23rd of that year, the government created a state-owned petroleum enterprise, the Corporación Estatal Petrolera Ecuatoriana, or CEPE (Philip 1982). The new Minister of Natural Resources following the coup, Captain Jarrín, pressed for full nationalization of the industry during his tenure (1972-1974) but his demands were neglected by the elite and the ruling Junta (Philip 1982). However, the creation of CEPE marked a new era in Ecuador where the military "had hoped to take the initiative in using the oil wealth to transform the Ecuadorian economy and modernize its society" (Philip 1982: 276).

Complete nationalization did not occur in the early 1970s because the state knew it lacked the technical expertise to explore and develop new fields (Martz 1987). However, the state did manage improve its position through the 1971 oil law which created unfavorable terms for foreign operators (at this time, these were part of the Texaco-Gulf consortium). The newly established CEPE was given a stake 25% in the consortium, albeit this was given as production sharing given the new company's lack of production capacity.

Political turmoil in 1974 increased pressure for outright nationalization with the ousting of Captain Jarrín and the ongoing issue of Ecuador's new involvement in OPEC in the attempt to control prices set by the foreign consortium. Membership in OPEC gave the state more leverage for a "gradual takeover of the consortium by CEPE" which was cemented in 1976 with the expropriation (with compensation) of Gulf Oil, giving CEPE majority production-sharing rights (Philip 1982: 281).

By 1976, CEPE had majority production-sharing ownership in the consortium (62.5%) but by this point did not have its own production capacity. It did have monopoly power in refining and

marketing, but a 1979 law changed this latter point, making CEPE only a "producer" and refiner (Philip 1982). Concerning production, CEPE was able to "produce" only with the help of foreign partners or service companies (a key example is its partnership with Romanian state-owned firm ROMPETROL in 1974, see Martz 1987).

Despite drastic political changes in the form of democratization in 1979, the 1979-1989 period saw much of the same for CEPE: it remained fully state-owned, had no production capacity, but was increasing its role in refining and its control over the broader oil sector, though the sector was overseen by the Ministry of Energy and Mines in conjunction with CEPE (Perrault and Valdivia 2010). In 1989, the company was renamed Petroecuador and it was split up into a number of subsidiaries, each assigned a role in the sector: exploration, production, transportation, etc. Starting in 1990, the NOC began production, though remained a minority producer until 2008.

During this time, the state pressed for privatization of the economy (this process began in 1982 with the removal of the state in other sectors) but workers and other citizens protested this reform – there was "a call-to-arms to 'defend the people's resources' among 45 unionized petroleum workers" and the shame of "the Ecuadorian state as 'vendiendo los recursos del pueblo' (selling off the people's resources)" – and the company remained state-owned (Perrault and Valdivia 2010: 693; Valdivia 2008: 457). However, in 1992 the reformists celebrated a minor victory in privatizing part of the oil sector: then president Durán Ballén allowed private investment in previously state-owned fields with favorable terms and tax-and-royalty concession contracts (Perrault and Valdivia 2010). This lasted until 1995 when, after several intense protests by state workers, the state reverted to production-sharing.

Between 2007 and 2009, the government of Ecuador passed new laws and regulations concerning the oil sector and contracts for foreign operators in order to raise the taxes and royalties paid to the state. During this time, Petroecuador became the majority producer in the country after the government invested nearly 2 billion USD (revenue generated by the newly negotiated tax rates) in the oil industry to increase production (USGS 2007, 2009).

In 2010, a new Hydrocarbons Law was passed that created the Ministry of Hydrocarbons, a regulatory body that is able to award contracts through a competitive bidding process. However, the law still allows for Petroecuador to engage in contracts on its own when necessary, giving preference to national companies (see Ley de Hidrocarburos Decreto Supremo 2967 Article 2).

NOC Presence
Coded 1 from 1972 to 2015 and coded 0 all years prior.
NOC Ownership
Coded 1 from 1972 to 2015.
Production Status
Coded 1 from 1990 (when Petroecuador began independently producing oil) to 2015; 0 all years prior.
Majority Production Status
Coded 0 from 1972 to 2007. Coded 1 from 2008 to 2015.

Regulatory Capacity
Coded 1 beginning in 1972, when CEPE was established "to manage petroleum affairs" but not to produce (Perrault and Valdivia 2010: 692; Philip 1982), and continuing through 2015.
Competing NOC
Coded 0 for all years.

Egypt

Exploration for oil began in 1869 with the discovery of the Gemsa field, but the field was not developed until forty years later. Production began in 1910 by Anglo-Egyptian Oilfields, a joint venture between Shell and British Petroleum. Information regarding Egypt's national oil industry is mostly sparse and sometimes conflicting, making this case somewhat more difficult to analyze.

Early legislation regarding ownership of minerals was passed in 1953 in the Mining and Petroleum Code, Law No. 66. It was later amended in 1956 and then in 1990. The Law established General Petroleum Authority (GPA), as a manager of the oil industry. The government then created the General Petroleum Company in 1957 as the "the first pure national company owned by the country to work in the field of prospect and production in the developing countries" (Ministry of Petroleum website, n.d.). In 1964 and 1966, the government began nationalizing the industry with expropriations of Shell and BP (see USGS 1964).

In 1976 that the state established the Egyptian General Petroleum Corporation (EGPC) to replace the GPA. At this time, all joint ventures and concessions were converted to exploration licenses and production sharing agreements, with EGPC taking at least a 50% share in the agreements. The company did have production capacity and was the majority producer for all years, until 1990 when operators working with EGPC began producing more than the NOC.

Throughout the NOC period, regulatory power has been overseen by either Ministry of Industry (1957-1972) or the Ministry of Petroleum (1973-2015), though it does appear that the Ministry exercises its regulatory power through EGPC ("Oil and gas regulation in Egypt" 2014).

NOC Presence
Coded 1 from 1957 to 2015; 0 all years prior.
NOC Ownership
Coded 1 from 1957 to 2015; 0 all years prior.
Production Status
Coded 1 for 1976 to 2015; 0 all years prior.
Majority Production Status
Coded 1 from 1976 to 1990 when EGPC was a majority producer; Coded 0 from 1991 to 2015.
Regulatory Capacity
Coded 0 for all years since evidence of EGPC's regulatory power is not strong.
Competing NOC
Coded 0 for all years.

Equatorial Guinea

One of Africa's "new" oil producers, Equatorial Guinea did not commence commercial hydrocarbon operations until 1995, 27 years after its independence from Spain in 1968. The initial period of exploration was headed by American IOCs, notably Mobil, who "received by far the most generous tax and profit sharing packages in the region" (McSherry 2006: 26). Before the creation of a NOC, the state allowed foreign operators with the use of tax-and-royalty concessions (McSherry 2006). Afterwards, the use of PSAs and joint venture contracts became the norm, though the terms of the contracts remained favorable to IOCs.

Minerals and oil/gas are property of the state, in accordance with Decree Laws No. 7 and 9 of 1981 (USGS 1998). The state created a NOC, GEPetrol, in 2001 by Decree Law No. 9/2001. Its role in operations is quite limited (it is not involved at all in E&P) and even the company's oversight and regulatory activities – such as auction management and contract negotiation – are outsourced to Western consulting groups, such as Exploration Consulting Group and InSeis Terra (Soares de Oliveira 2007). The company does have an oil trading and marketing subsidiary to manage the sale of production that the government obtains via PSAs, though this arm of the company was also set up by Western consultants (Glencore and Stag) as well as Angolan oil experts affiliated with Sonangol (Soares de Oliveira 2007). Starting in 2001, the government began to participate in the oil sector, but only as high as 6% in any given license/field (USGS 2001) and starting in 2004 up to 30% in any given field (USGS 2004).

According to *Africa Energy Intelligence* and Soares de Oliveira (2007), Gepetrole is involved in non-oil and non-commercial activities in Equatorial Guinea, but unlike Sonangol and SNPC, it does not act as an investment branch of the government to obtain loans using oil as collateral. Further, it is not involved in any downstream activity.

In 2008, GEPetrol gained a participating interest in a joint venture operating the Zafiro oil field, making it a producer and expanding its upstream capacity.

NOC Presence
Coded 0 from 1968 to 2000; Coded 1 from 2001 to2015.
NOC Ownership
Coded 1 for all years of NOC presence, from 2001 to 2015.
Production Status
Coded 0 from 1968 to 2007, since GEPetrol was not physically involved in operations but only there to monitor IOCs and collect royalties and taxes. Coded 1 from 2008 to 2015.
Majority Production Status
Coded 0 for all years
Regulatory Capacity
Coded 1 since the company is a regulator (despite outsourcing its tasks to Western oil consultants) because it has the authority to negotiate and renegotiate contracts (USGS 2001).
Competing NOC
Coded 0 for all years.

France

Exploration for oil in France began in the late 19th century. The extreme shortage of oil in early 20th century France, when the country was entirely dependent on imports, prompted the government to draft an oil policy and establish the Commissariat General aux Essences et aux Combustibles in 1918. Noted by Grayson (1981), "In early 1918 it looked like France would…literally run out of oil…In consequence, the government set up…the Commissariat to develop a petroleum policy in response to the awareness of the importance of oil to the nation" (23).

A few years later, in 1921, the French government decided to acquire a stake in the Turkish Petroleum Company, later the Iraq Petroleum Company (IPC), to at least control some oil resources in order to feed the steadily rising domestic demand. The Turkish Petroleum Company did make a major find in Iraq in 1922, but the French government's stake was reduced to 23.5%. To manage this stake, the government supported the creation of Compagnie Française des Pétroles (CFP), managed privately but with a 37% state ownership. CFP was also tasked with exploring oil and gas within French borders, though its primary activities were centered abroad.

In 1939 and 1941, the state established two other NOCs - Régie Autonome des Pétroles (RAP) and Société Nationale des Pétroles d'Aquitaine (SNPA) respectively - both charged with exploring for oil and gas in the southwestern region of France. In 1945, the Bureau de Recherches de Pétrole (BRP) was established to oversee the former two companies and was fully-state owned. However, like CFP, the BRP did not have majority production, as Esso and Shell maintained their status as the producers of the majority of France's domestic oil.

Starting in 1968, SNPA became the majority producer after all companies were combined into a holding company named ERAP in 1966 (USGS 1968). The industry was reorganized again in 1976 when SNPA and ERAP were formally merged into Elf-Aquitaine, which existed as the second oil company in France, second to CFP, which at that point was only operating outside of France, primarily in the Middle East.

Privatization began in 1994 and 1995 when the French government sold all shares except a "golden share" in Elf-Aquitaine (Encyclopedia Britannica, 2012). CFP was privatized earlier, in 1991, when CFP became Total and was listed on the NYSE; however, since CFP was not a domestic producer but rather an international NOC, privatization is coded as occurring when Elf-Aquitaine was privatized in 1995.

NOC Presence
Coded 1 beginning in 1941 with the creation of SNPA to produce oil domestically; Coded 0 after privatization in 1994-5.
NOC Ownership
Coded 0 for all years since the French government never fully owned its NOCs.
Production Status
Coded 1 starting in 1941 given SNPA's production capacity upon establishment. Coded 0 after privatization in 1994-95.
Majority Production Status

Coded 1 beginning in 1968 when SNPA became the majority producer and held this status until privatization of Elf-Aquitaine in 1994-95.

Regulatory Capacity

Coded 0 for all years since regulatory authority was always in the hands of the BRP (later the Interior Ministry).

Competing NOC

Coded 0 for all years.

Gabon

In the 1950s and 1960s, oil in Gabon was produced by foreign operators, mainly Elf, Shell, and Esso. President Bongo in 1974 decided to push for nationalization in what he called the "Gabonization of cadres" (Yates 1996: 67). Bongo announced that the state would take a 10% stake in all new IOCs that came into Gabon. He never fulfilled this promise, but in 1970/1971 he had already started to tax Shell and Elf-SPAFE with royalties, specifically a 12% royalty at the wellhead. He also increased the taxes on 38% of oil production and added an additional 5 to 10% royalty on top for offshore production. In 1973, the sole refinery in the country, operated by five UDEAC countries under the Société Equitoriale de Raffinage, was nationalized. The site, at Port-Gentil, began operating under the new national refining company, Société Gabonaise de Raffinage (SOGARA). The upstream operators were not nationalized at that time, because, as Yates writes "outright nationalization of SPAFE (the operating arm of Elf in Gabon) may not have been a realistic option for President Bongo, but the concept of "participation" – partial ownership by negotiations – was quite feasible" (Yates 1996: 67). In 1973 (though the date is not exactly made clear in Yates 1996 or in Soares de Oliveira 2007), Bongo announced that 25% of Elf and Shell's production would be expropriated, and taken at the wellhead (like a PSA since there was no NOC at the time).

A NOC was established in 1979 and further PSAs were negotiated. Petrogab, the national oil company, was established "to search for and exploit deposits of oil, its transformation, and its transportation" (Yates 1996: 72). Soares de Oliveira 2007 notes that Petrogab "had been created in 1979 'as a vehicle for the government's equity holding in the local affiliates of foreign oil companies as well as the state's interests in new production sharing agreements…In addition, Petrogab was granted authority to sell directly on the market Gabon's share of oil'." (Soares de Oliveira 2007, quoting *West Africa* 30 August 1982). Both Yates and Oliveira (and also Clarke 2009) note that Petrogab was not a player in the oil sector, and "remained a rent collector rather than a sovereign entrepreneur" (Yates 1996: 72). In 1979, Yates notes, the leading producer was Elf Gabon, with 68.1% of production, while the other IOCs (Shell, BP-Wintershall, etc.) produced the bulk of the remaining crude. The company went bankrupt in 1989 and private companies handled oil exploration and production in the following two decades.

On August 24, 2011, the government of Gabon established another NOC, this time named the Société Nationale des Hydrocarbures du Gabon (SNHG), also referred to as Gabon Oil Company (GOC). Unlike Petrogab, SNHG is charged with "overseeing all aspects of the petroleum sector, including the state's participation in petroleum and gas ventures" (USGS 2011). In 2013, GOC officially became a producer NOC (Gabon Oil Company 2015). The government introduced a new Hydrocarbons Code in 2014 with emphasis on exploration in offshore, deep-water zones and giving GOC the right to acquire up to a 15 percent stake in new production sharing contracts offshore. As of 2015, the company still remains a minority producer.

NOC Presence

Coded 1 from 1979 to 1989 for the Petrogab years; coded 0 from 1990 to 2010 when private companies handled the oil sector; coded 1 again starting in 2011 with the establishment of Gabon Oil Company.

NOC Ownership

Coded 1 from 1979 to1989; 0 from 1990 to 2010; 1 from 2011 to 2015.

Production Status
Coded 0 for all years until 2013. Coded 1 from 2013 to 2015.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Ghana

Exploration and production of oil and gas in Ghana began as early as 1896, though commercial production only began in 1978 (GNPC website). Prior to the creation of a NOC, the Ghanaian government had established the 1977 Investment Policy Decree (originally drafted in 1975) which outlined that minerals industries (excluding oil and bauxite) with values above $435,000 were to become 55% state-owned or 40% state-owned if they were valued below that threshold. For the nascent oil industry, government interest would not exceed 20% starting in 1977 (USGS 1977). Thus, the 1977-1982 years were participatory and the industry would not be nationalized until 1983 with the establishment of a fully-owned NOC. The Ghana National Petroleum Company (GNPC) was established in 1983 and began minimal production capacity in 1985 in the Saltpond field after taking over operations from Phillips Petroleum Company (USGS and GNPC website). In the 2000 – 2010 period, the company claims to have "drilled eighteen (18) onshore wells, fifty-five (55) shallow water wells and six (6) deepwater wells" (GNPC website). Despite nationalization, the petroleum sector has continued to rely on foreign companies and participatory contracts to produce the majority of its oil.

Though GNPC was mandated to engage in exploration and production, its primary role in the early years was to monitor and regulate the petroleum sector on behalf of the Ministry of Energy (Ghana Petroleum Regulatory Authority Bill 2008). This changed, however, when additional discoveries of oil and gas were made in the offshore Jubilee field. The prospect of greater participation and revenues from the oil sector prompted the government to establish the Petroleum Commission in 2010 (the law was not fully enacted until 2011) to take over regulatory duties from GNPC.

NOC Presence
Coded 1 from 1983 to 2015; 0 all years prior.
NOC Ownership
Coded 1 from 1983 to 2015; 0 all years prior.
Production Status
Coded 1 from 1985 to 2015; 0 all years prior.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 1983 to 2010 when the government transferred regulatory authority to the Petroleum Commission. Coded 0 from 2011 to 2015.
Competing NOC
Coded 0 for all years.

Guatemala

One of the only Latin American producers without a NOC, Guatemala is a recent player in the region's oil economy with oil discovered in 1980 in the Peten basin in the northern rainforest (Philip 1982). It is a small producer (about 25,000 bpd) despite medium reserves (~500 million barrels in the 1999-2005 period) but has never been a net exporter due to its increasingly growing domestic demand (EIA n.d.). [Compare this to Vietnam which has roughly the same reserves (600 million bbl) but 15 times more production at 400,000 bpd.] Historically, Shell had been involved in exploratory concessions in Guatemala but never found significant, commercially viable reserves during its tenure there in the 1920s and 1930s (Philip 1982). In 1955, long before any oil was discovered in commercial quantities, the government passed legislation dictating that any oil discovered would incur a 12.5% royalty paid to the state (USGS 1980). Then in 1975, a new law was passed increasing this tax to 51% of the profit from any oil sold by operating companies, which was then increased to 55% in 1978.

There have been no nationalizations or significant expropriations. Pre-1980 exploration contracts with foreign operators (mostly smaller firms from the United States) had been in the tax-and-royalty concession style (Philip 1982). Following discovery of commercial deposits, some PSAs have been signed, notably with European exploration firm Perenco (Mbendi n.d.). Also, Canadian firm Truestar Petroleum Corporation arranged a PSA with the Guatemalan government in 1980 reflective of the state's control over resources and its capacity to offer oil only on production-sharing terms (Truestar n.d.). [This is also confirmed in USGS 1980]. The biggest domestic operator, Basic Resources International S.A. (BRISA) is fully privately owned.

The country's historical relationship with the United States, starting with the American military occupation in 1920, has made Guatemala a nearly exclusive supplier to the US, with very little being exported to other countries (Philip 1982, EIA n.d.). Guatemala has no downstream capacity and must send its crude out to be refined by either Mexican or American refineries (Mbendi n.d.).

Since (as of 2015) there is no NOC, all questions are coded 0.

India

Oil production in India began prior to its independence from Britain in 1947, with the first production beginning in 1889 in the Assam basin. Production was mostly managed by the British-backed Assam Oil Company beginning in 1899. After independence in 1947, there was a strong backlash against foreign ownership, particularly British ownership. This xenophobia, combined with a pro-socialist government in the 1950s, led to nationalization in 1956. As Rai (2012, 754) eloquently notes,

> Two factors were critical in the Indian government's decision to put a state-owned company (ONGC) in charge of India's oil and gas E&P efforts: the government's socialist bent and fears of opportunism of the international oil companies (IOCs)…The past baggage of imperial control and fears of opportunistic behavior of the IOCs convinced the government of India to have government ownership of oil and gas exploration and production.

As a result, India's state-owned petroleum enterprise, Oil and Natural Gas Commission (ONGC), was first set up as a statutory body in 1956. It also had production capacity and was the "most active organization in petroleum exploration in India" in the first few years of its existence (USGS 1963: 1329). In these years, the government also participated in the oil sector with partnerships with IOCs and other foreign companies, for example with Burmah Oil Co. in a 50-50 partnership to set up the Oil India Limited (OIL) company. OIL became wholly state-owned in 1981 (and remains majority state-owned as of 2015), making it another NOC alongside ONGC (OIL website). However, OIL's production area is limited to northeast India and Rajasthan while ONGC remains the dominant player in the Indian oil sector.

As for production, ONGC was set up with a production monopoly over India's oil fields, with exclusive rights to concessions, and this continued throughout the 1956-1994 period. During this period, the company was also the de facto (and de jure) regulator of the oil and gas industry. Additionally, ONGC was not forced to perform non-commercial activities by the state, and the government explicitly designed and maintained ONGC as an oil company only (and not a broad bureaucracy with non-oil programs).

Starting in 1994, the industry was restructured. ONGC was partially privatized and instead of a 100% state ownership, the company became 84% owned by the state. Also in 1994, the state began using production sharing contracts as a way to open up the industry to more competition in order to improve production from aging fields and to discover new frontiers offshore (USGS 1995). Despite these reforms, ONGC remained the majority producer throughout.

In 1993, the government of India had established the Directorate General for Hydrocarbons (DGH) as an independent government agency mandated to supervise and regulate the oil sector in an effort to make ONGC more efficient and competitive. Further reforms were initiated in 1998 when the state implemented the New Exploration and Licensing Policy (NELP), under which exploration blocks were auctioned off in competitive rounds completely open to foreign investors. It should be noted that though the DGH was established in 1993, it did not replace ONGC as the upstream technical regulator until 1998 under NELP (Rai 2012).

In 2004, the company was again partially privatized with the sale of an additional 10% of ONGC sold to public shareholders. Two years prior, in 2002, ONGC was no longer allowed to use state capital for E&P.

NOC Presence
Coded 1 for the ONGC and OIL period, 1956 to 2015.
NOC Ownership
Coded 1 from 1956 to 1993 when the government decided to partially privatize ONGC; coded 0 thereafter.
Production Status
Coded 1 for all years
Majority Production Status
Coded 1 for all ONGC years (1956 to 2015), despite the government opening the sector up to more competition.
Regulatory Capacity
Coded 1 from 1956 to 1997. Coded 0 beginning in 1998 when the DGH assumed regulatory responsibilities under the NELP, and continuing through 2015.
Competing NOC
Coded 0 from 1956 to 1980; Coded 1 from 1981 to 2015, after the government of India acquired full ownership of Oil India Limited.

Indonesia

One of the oldest oil producers in the world, Indonesia was the foundation for the company Royal Dutch which drilled its first well in 1884 in Sumatra. In the 1890s, British Shell Transport and Trading (Shell) started production in Borneo and in 1907 the two companies joined to form Royal Dutch Shell. Also in 1907, the Indonesian government drafted a Mining Law (Indische Mijnwet) to formally declare state ownership of subsoil resources.

The archipelagic country formally gained independence from the Dutch in 1949 but independence was followed by a period of violence and instability, as conflict intensified between Java and the other islands. This period also marked a time of underinvestment in the oil industry as instability coupled with Indonesian nationalism dissuaded foreign investment (Hertzmark 2008). Between 1949 and 1957, both foreign and domestic private companies operated the country's fields, but no new concessions were offered in the 1951-1956 period for political reasons. In 1957, Royal Dutch's fields in Sumatra and elsewhere were partially expropriated (50% shares bought by the state: see Pertamina website). The government passed the Nationalization Act in 1958 formally codifying the elimination of Dutch business throughout Indonesia (Van de Kerkhof 2009). Later in 1960, Royal Dutch was driven out by the Republic Army. The fields were then operated by three state-owned firms: PT Permina, Pertamin, and PNPermigan. Thus, 1957 marked the first period of nationalization and the establishment of fully-state-owned oil companies, though they did not achieve majority production status until 1961.

Nationalization was further secured with the passage of a new oil law, rewording the resource regulations stated in the 1945 constitution (which had stated that land, water, and natural resources should be controlled by the state for the "greatest welfare of the people"); the 1961 Oil and Mining Law added stronger language for state-control, stipulating that "oil and natural gas mining is only conducted by the State and the State company is authorized to engage in oil mining on behalf of the State" (Hertzmark 2008: 7).

By 1968, the companies were merged together to form Pertamina and by 1971 a new revision to the Oil and Mining Law stated that the company would be responsible for oversight (licensing and contracting) of foreign companies, which it had heretofore not had authority over. 1971 also saw Pertamina engaging in its first production-sharing contracts (PSCs), though they were considered the toughest contracts in the world, with around 65% of production going to the state (USGS 1971).

In 2001, due to grave concerns about Pertamina's corruption, a new oil law stripped Pertamina of its regulatory duties and scaled back its monopoly over the upstream sector. It was replaced by another NOC, BP Migas, which took over as a "shell NOC", though Pertimina still produced a small percentage of the country's oil. Thus, starting in 2001, the NOC(s) were no longer majority producers.

NOC Presence

Coded 0 from 1949 to 1956. Coded 1 from 1957 to 2015 to reflect first the creation of the three NOCs in 1957, and then the transition to only Pertamina in 1968.

NOC Ownership
Coded 0 for the same periods as question one. Coded 1 for the 1957 to 2015, given the full-state-ownership of the NOCs and then of Pertamina (Pertamina website)
Production Status
Coded 1 for 1957 to 2015, since the expropriation of Shell and other companies allowed the NOCs to start out with production capacity.
Majority Production Status
Coded 0 from 1949 to 1960 and then coded 1 from 1961 to 2000; coded 0 all years after.
Regulatory Capacity
Coded 0 for the 1949 to 1970 period and 1 for 1971 to 2000 to reflect the 1971 law giving Pertamina oversight authority (which it had not had before; that was in the hands of the bureaucracy) and then 0 again for 2001-2015 in accordance with the 2001 oil law.
Competing NOC
Coded 0 for all years.

Iran

Production began in 1906 with the spudding of the Masjed Soleiman well in Southwest Iran. William Knox D'Arcy was granted the first concession by the Qajar government, with backing from the British government.

The perception of an unfair split in oil revenues between Britain and Iran began to be disputed politically as early as 1933, with the passage of a new concession between Britain and Iran, now referred to as the 1933 Agreement. Immediately after 1933 there existed a small but noticeable gap between host and foreign state; from 1940 onwards Iran's absolute oil revenues did increase but clearly did so at a much slower rate than that of the UK.

Fifteen years after the 1933 agreement, on October 22, 1947, Iranian MPs passed an amendment to the 1933 oil concession law requiring government officials to be present in Anglo-Iranian Oil Company (AIOC) policy decisions when they pertained to Iran's oil royalties. The motivation for this amendment originated in MPs' perceptions that "the rights of the nation were impaired" when it came to AIOC royalty receipts (Noori 1965) and the 1933 Agreement was invalid as it "had been forced upon Iran" (Makki 1950). Two years later, G. Golshayan, the Minister of Finance, submitted a report to parliament on the newly negotiated 1949 agreement between AIOC and the Iranian government. In the parliamentary hearing, Golshayan testified that the negotiations were conducted on the following bases:

> As compared with the royalties received by Venezuela, Iran felt that her share from the southern oil fields had not been adequate. Venezuela produced, in round figures, about double the tonnage of oil produced in Iran. Iran received about \$32 million in royalties and taxes while Venezuela was paid over $200 million a year. Iran's share, on a comparative basis, should be about \$100 million a year or more than three times as much as she was receiving in 1949. The average post-war income of the [AIOC] had been \$400 million a year. From this vast sum \$50 million was spent in Iran and $32 million was paid to the Iranian government. The balance, \$318 million, had been divided between the British government and the AIOC. Iran certainly deserved a greater share especially in view of the favorable terms offered by the American oil companies to Venezuela.[4]

Golshayan then explained that the new agreement, now referred to as the 1949 Supplemental Agreement, provided for a modest increase in Iran's royalty payments. But noticeably absent from the new terms was any discussion of an even "50-50" split between the two countries. Hossein Makki, a member of the parliamentary opposition and the right-hand-man of future Prime Minister Mossadegh, charged before parliament that the 1949 agreement was still unfair to the Iranian people, especially when compared to the terms given to other oil producers at the time.

With his rejection and several others by prominent opposition members, members of parliament rejected the 1949 Supplemental Agreement. The British, upon seeing the failure of the

[4] This summary is taken from two reports made by Golshayan in July 12, 1949, and July 24, 1949. Quoted by Lessani, pp. 451-68, in Noori (1965).

negotiated agreement to make it through Iran's parliament, told then-Premier Saed that Iran should either take the 1949 agreement or leave it; but in no way was Britain to agree to a fifty-fifty sharing agreement (Noori 1965). Upon news of the British government's unfriendly offer, the public turned noticeably towards outright nationalization of AIOC. Left-wing and moderate newspapers such as carried editorials that the oil fields belonged to Iran and that the Iranian government should end its policy of ``generosity'' towards Britain and the AIOC. Even the most right-wing newspaper of the country, *Ettelat*, charged the British government with "refusal to recognize the seriousness of the situation in Iran" (quoted in Noori (1965, 177)).

After a disputed parliamentary election in 1949, the Shah tried to placate nationalistic demands with a new election in 1950. With campaign promises of a new oil settlement, Mohammad Mossadegh and his National Front Party secured only eight of the 143 seats in parliament. The new PM, Ali Razmara, was a conservative ex-soldier who sought to ease tensions between Iran and Britain with new negotiations between the government and AIOC. Upon Britain's rejection to opening a new round of negotiations to discuss a 50-50 profit-sharing agreement, Razmara was forced to take the unpopular 1949 Supplemental Agreement again before parliament where it was rejected in 1951 for the second time. After openly condemning the National Front's calls in parliament for nationalization, Razmara forever marked himself in the eyes of the Iranian public as a backdoor agent of the U.K.

In the face of growing public opposition to the AIOC and Britain's involvement in Iran - accompanied by street demonstrations throughout the winter of 1950/51- Razmara publicly rejected nationalization in March 1951, calling it "imperialistic and unwise" (Lenczowski 1949, 17). This was to be his last speech, as the Premier was assassinated on March 7 by the extremist xenophobic group *Fedayan-e Islam*. Thirteen days after Razmara's death, both the Parliament and the unelected Senate passed Mossadegh's nationalization bill on March 20, 1951 and soon thereafter established the National Iranian Oil Company. The immediate response by the British was to send the Royal Navy to Iranian waters to threaten an occupation of the oil city of Abadan and to enforce an embargo of Iranian oil exports in order to protect British interests overseas. After two years of back-and-forth negotiations and subsequent sanctions, Mossadegh was ousted as premier by the CIA and MI6 in what was then termed "Operation Ajax." The Shah was reinstated in full, and in 1954 reversed the nationalization bill to establish a joint consortium of the National Iranian Oil Company with American, British, and French oil companies.

During the consortium years, NIOC was no longer a producer, but was relegated to be the overseer for the foreign oil firms. The NOC began its role as regulator of the industry, whereas for the years prior, the independent Ministry of Petroleum handled concessions. This structure remained in place for 1954-1973 and is coded as a period of participation by the government in the industry.

Iran re-nationalized in 1974 with introduction of Petroleum Act of 1974 and making NIOC the monopoly operator. From 1974 until the present, NIOC is the majority producer of oil, with some small domestic private firms operating in the sector since the late 1990s. Regulation continues to be handled by NIOC, despite the existence of a Ministry of Petroleum. However, the managers of the Ministry are typically the same managers of NIOC, so there is little to distinguish between the company and the ministry (Mahdavi 2011).

After the 1979-80 revolution, NIOC was kept largely intact as a firm but with major personnel changes. Further, starting in 1980 the NOC was given access to limited state capital for E&P but was also forced to engage in non-commercial activities such as social programs. PSAs were not used until 1997, with the creation of the "buyback" system. This mechanism allowed NIOC to effectively take over operations once foreign firms had made successful exploratory discoveries, with a fixed 15-17% return on investment for foreign firms upon discovery. The remaining production share would go to NIOC.

NOC Presence
Coded 1 from 1951 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1951 to 2015.
Production Status
Coded 1 for the early NIOC years, 1951 to 1953, and all years after the Petroleum Act, 1974 to 2015.
Majority Production Status
Coded 1 for the early NIOC years, 1951 to 1953, and all years after the Petroleum Act, 1974 to 2015. Coded 0 otherwise.
Regulatory Capacity
Coded 1 beginning in 1954 with the consortium period and continuing after re-nationalization until 2015. Coded 0 otherwise.
Competing NOC
Coded 0 for all years.

Iraq

While early exploration began in 1902, the first successful concessions to Iraqi oil fields were given in 1925 to a consortium of five multinationals (now Exxon, Mobil, Shell, BP, and CPF) named the Iraq Petroleum Company (IPC). The concession covered most of the country, but rights to smaller plays were given to two IPC subsidiaries, Basrah Petroleum Company and Mosul Petroleum Company. Exploration led to commercial production in 1927, when discoveries were made at the Baba Gurgur fields surrounding the Kirkuk area. For the 1927-1961 period, IPC was the majority operator of Iraq's fields and the government collected revenues through traditional concession royalty-style agreements.

Despite the socialist coup d'etat of the monarchy by General Kassem on July 14th, 1958, the western IPC consortium remained untouched until 1961. Kassem had achieved popularity through his repeated promises of kicking out Western powers and restoring the means of production back to the people (across all sectors), yet he did not immediately nationalize IPC, Basrah nor Mosul in 1958 as expected (1966). The buildup to nationalization in Iraq, however, was a long process, one rife with political and economic grievances and antagonism for western imperialism. Kassem's success was predicated on considerably negative public opinion of the strong relationship between the monarchy and the oil companies: while IPC itself may not have committed the crimes attributed it by the public, the company was seen as a symbol of foreign interference in Iraqi affairs. This perception of mass opinion appeared to pressure the government into changing the concessionary contract with IPC in order to not only capture more revenue but also to improve relations between IPC and its surrounding environs – the labor force, the urban and rural operating environment, etc. (1966).

However, the state did not wish to nationalize in 1958 after Kassem came to power, fearful of repercussions by the West, similar to the sanctions and embargo of Iran after Mossadegh's attempt of nationalization in 1951 (1966). It was not until intense public pressure on Kassem's regime forced him to move beyond changing the concessionary contracts that nationalization began in 1961. To this end, the Iraqi government adopted Law No. 80 in 1961 – entitled "Defining the Exploitation Areas for the Oil Companies" (Alnasrawi 2002). The first phase of nationalization was a state claim to 25% ownership of IPC in 1961. At this point, operations at IPC remained in the hands of the consortium, but the debate over ownership hindered production output to 5% in the 1960s compared to 14% in the prior decade (Alnasrawi 2002).

The creation of the Iraqi National Oil Company in 1964 was the second phase of nationalization. At the time, INOC "was not given the necessary legal and financial resources to develop the reacquired resources" (Alnasrawi 2002: 26) so it is coded as a contracting shell for the 1964-1966 period but with full state control. By 1967, the company was given exclusive rights to explore and develop the country's subsoil hydrocarbon resources. While INOC had production capacity as of 1967, it did not become a majority producer until 1975. The IPC companies' operations began their conclusion in Iraq after the further nationalization of IPC in 1972 (USGS, 1973). On June 1, 1972, Iraq fully nationalized IPC (Brown 1979). Note that BPC remained, owned by the French and British, until 1975 when it too was nationalized. INOC then had majority production status beginning in 1975, according to that year's USGS mineral essay which states that, "government oil fields accounted for slightly more than one half of the output, and the remainder came from fields operated by Basrah Petroleum Company Ltd." (1975).

Regulation initially was handled by the government directly and not through the NOC or Ministry. Starting in 1976, by order of Law No. 101, the Ministry of Petroleum was established (USGS, 1976). INOC regulated the oil industry through the Ministry of Petroleum, but like the case of Iran, the MoP and the NOC were one and the same, with the same individuals at the head of both organizations. Therefore, from 1976 onwards, INOC is considered the regulator of the oil industry.

INOC was restructured in 1987 by Decree 267 which formally merged the company with the Oil Ministry. The company's operations were divided among various subsidiaries which were under the control of the Ministry headquarters. As Ruba Husari notes, "starting in the late 1980s and onwards, the oil sector was treated as a milking cow sustaining a political system in place, not as a vital economic sector providing the means of growth and development for the national economy" (2009). One effect of this restructuring was that the subsidiaries, operating more or less as autonomous entities, became increasingly responsive to regional, rather than central, leadership.

That structure remained intact until 2003, when upon US invasion, the oil industry was slightly reconfigured. INOC remained the national oil company with full ownership and production and regulatory capacity. The differences in structure occurred with respect to the Kurdish fields, which from 2003 onwards were not directly managed by INOC nor regulated by the center in Baghdad. See Iraqi Constitution (2005) and USGS (2006).

In 2004, the state began to debate again restructuring the industry to reconstitute INOC as an independent state oil company that would oversee its regional subsidiaries. However, this proposal met with resistance from local sectarian groups and ended up being delayed for several years (Jaffee 2007). Despite not passing new legislation, the stated held bidding rounds open to IOCs for several of its discovered but nonproducing oilfields during the 2009-2011 period (Blanchard 2009). After this opening of the sector, the NOC became a minority producer in 2010 and continues as such through the present (USGS).

NOC Presence
Coded 0 from 1932 to 1963; coded 1 beginning in 1964 and up to 2015 after the creation of INOC.
NOC Ownership
Coded 0 from 1932 to 1963; coded 1 from 1964 to 2015.
Production Status
Coded 0 from 1932 to 1966; coded 1 starting in 1967 (and continuing to 2015) to mark the first year of INOC's production capabilities.
Majority Production Status
Coded 0 from 1932 to 1974; coded 1 from 1975 to 2009. Coded 0 from 2010 to 2015 after IOCs began operating newly contracted fields,
Regulatory Capacity
Coded 0 from 1932 to 1975; coded 1 from 1976 to 2015 reflect INOC's position as regulator through the Ministry of Petroleum.
Competing NOC

Coded 0 for all years.

Italy

Exploration for commercial oil deposits in Italy began in the 1930s, though small quantities of surface oil had been collected in the Po Valley dating back to pre-Roman times. Commercially viable oil deposits were not discovered until 1949 in Cortemaggiore in the Po Valley by AGIP, the state-owned oil and gas company. This discovery, however, proved to be a more substantial find of natural gas, and less so of crude oil.

The state created Azienda Nazionale Generale Italiani (AGIP) in 1926, a fully-state-owned enterprise, established "to conduct Italian exploration, refining, and marketing activities at home and abroad" (Grayson 1981: 107). However, AGIP - unlike its European NOC precedent, France's CFP - did not begin with any domestic supplies of oil or gas; the motive, rather, was "national control of oil supplies in a domestic market (of distribution) already dominated by Americans," namely Standard Oil (Grayson 1981: 107). The "domestic market" here refers to the presence of American companies in the downstream sector in Italy, i.e. the distributors of natural gas and gasoline.

AGIP was unique in that it did not begin with any supply of oil at all – though this is a pattern we see in centrally planned economies such as Vietnam and Syria. Rather, it was created with the intention of discovering oil and ensuring that the state would be the sole supplier of that oil. The initial years were marked with exploration and surveying, but also with the acquisition of companies abroad, notably in Romania, Iraq, and Albania. When oil and gas were discovered in 1949, then-VP of AGIP Enrico Mattei fought in parliament for monopoly rights and access to state capital for a new NOC, one to manage the mineral resources of the entire country. Thus, in 1953, the state established Ente Nazionale Idrocarburi (ENI) as the holding company for the various state companies in the minerals sector (beyond just the oil industry). ENI was given monopoly rights to oil in Po Valley, but oil produced elsewhere would be partially privatized and ENI would have to compete with private (mostly foreign) companies in these fields.

It should be noted that most of ENI's production came from overseas, and the production sharing agreements and joint ventures that the company signed with various host governments (in Algeria, Sudan, Morocco, and Tunisia) are not coded here since they are not related to ENI's role in the domestic production of oil and gas within Italian borders. However, PSAs within the Italian oil sector were signed (or forced upon, depending on your perspective) starting in 1964 with ENI's production sharing agreement with Gulf Oil for the Ragusa oil field in Sicily (Grayson 1981). Further PSAs were signed in 1967 and onward for production off the Adriatic coast: ENI would get "first dibs" at any oil or gas discovered by private companies offshore. Starting in 1956, the state forced ENI to take on struggling non-oil companies, such as a bankrupt engineering firm (Nuovo Pignone) and a failing textile corporation (Lanerossi), in the attempt to keep employment in these sectors propped up by the state. Further, ENI was subject to product price controls by the Italian government, essentially forcing the company to subsidize fuel for the domestic market whenever oil prices rose above a given threshold.

Little changed in the 1980s. It was not until 1992 that talk of state divestiture began: in that year the parliament passed a law to make ENI into a joint stock company (see ENI n.d.). This year marked the end of the NOC's ability to draw from state capital, but the first round of privatization did not begin until 1995. At this time, however, the company no longer retained

oversight powers over the oil sector, but the state still held the majority of shares. This changed in 1998 when, in the fourth round of share sales, the majority of ENI's shares were held by private investors. From 1998 onwards, though the state retained a 30% golden share, ENI is no longer coded as a NOC.

NOC Presence
Coded 1 starting in 1926 when AGIP was established and through 1997. Coded 0 from 1998 when ENI was partially privatized (<50% state ownership). Coded 0 all years after.
NOC Ownership
Coded 1 from 1926 to 1994 when privatization of ENI began and the state lost its 100% share. Coded 0 all years after.
Production Status
Coded 1 from 1949 (after the first big discovery of oil) to 1997 (when ENI was privatized and no longer NOC); coded 0 thereafter.
Majority Production Status
Coded 1 for the 1949-1953 period and 0 thereafter given that the NOCs were not majority producers once the state allowed foreign operators in fields outside the Po Valley (on average, ENI controlled between 25%-40% of Italian production, see Grayson 1981).
Regulatory Capacity
Coded 1 starting in 1953 when ENI was established and became overseer and AGIP was relegated to be one of ENI's subsidiaries. Coded 0 beginning in 1995 when ENI was privatized.
Competing NOC
Coded 0 for all years.

Japan

As one of the world's biggest importers of oil, Japan has few hydrocarbon resources to offer its domestic market. Still, there is a modest oil industry with production averaging around 12,000 barrels per day in the 1990s and 2000s. While the marketplace is dominated by behemoth private companies (*keiretsu*), Japan has a "shell NOC" or perhaps better known as a "consumer NOC", which secures production from other operators, while not having production capacity *per se*. The Japan National Oil Co. (JNOC, originally named JPDC) was created in 1967 as a fully-state-owned NOC in order to manage the oil industry in Japan with the primary role of being the financial conduit for private firms receiving assistance from the state, as well as presiding over the stockpiling of crude oil after the 1973 oil crisis. Prior to the creation of JNOC, the Ministry of International Trade and Industry (MITI) had set up the government-owned Japan Petroleum Exploration Co. (JAPEX) in 1955 as part of an effort to improve the country's self-sufficiency in energy production. Indeed, the company did make a handful of minor oil discoveries, but the overall portfolio of domestic production remained a small fraction of domestic demand for crude oil (Nester 1991). In 1967, JAPEX became incorporated under JNOC and then separated and privatized in 1970 (JAPEX website).

Shaoul (2005) and Paik et al. (2007) argue that one reason for the creation of JNOC was the government's fear of loss of a secure import stream – this "search for security" led the government to create a NOC with the goal of building up and managing oil stockpile reserves to ensure that supply disruptions would not have as dear an effect on the Japanese economy. Thus, JNOC has no production capacity, oversight power, or even claims to subsoil resources – it was merely a shell for managing the private firms in the sector.

In 2004 the Japanese Oil, Gas, and Metals National Corporation (JOGMEC) replaced JNOC (which officially was dissolved in 2005), though its functions were similar in comparison. JOGMEC, however, would perform this managing role across the entire minerals sector, and not just in oil and gas (as the name would imply).

NOC Presence
Coded 1 from 1955 (marking the establishment of JAPEX) to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1955 to 2015, since JAPEX was fully owned when it was established as was JNOC (now JOGMEC); coded 0 all years prior
Production Status
Coded 0 for all years, since (aside from JAPEX's brief moment as exploration NOC) the NOCs have been shell companies
Majority Production Status
Coded 0 for all years (same reason as above).
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Jordan

Oil production began in 1986, though Jordan has never become a significant oil producer, with production peaking at 45 thousand barrels per day in 1987. Nonetheless, the oil sector was nationalized in 1995 with the establishment of the National Petroleum Company (NPC). The NOC is majority state-owned but not fully state-owned, and was given its first concession in 1995/1996 by Law no. 9 of 1996, amended by temporary Law no. 15 of May 1, 2002.

From a media report by *al-Bawaba* (2001):

> In mid-1999, NPC divested its oil-drilling operation, which was slated for privatization, and handed it over to the newly established Petra Drilling Company. PDC is an affiliate of the Natural Resources Authority (NRA), which was established in 1998 in a bid to promote exploration and attract foreign investment to Jordan. PDC owns and operates three drilling and work-over rigs.
>
> Established with a capital of 6.6 million Jordanian dinars ($9.3 million), the state-owned PDC now offers drilling services for companies, which search for phosphate, oil, gas, water and other mineral resources in the Kingdom.
>
> Jordan embarked on a five-year privatization scheme in 1999. Priorities of implementation were in energy, transportation, communications, water, media, government shareholding companies and official public institutions. Between 1998 and today, the government sold all or part of seven major state-owned enterprises. After a surge of progress during 2000, sales of state assets have slowed in 2001.
>
> Regional conflicts are a contributing factor to the halt on privatization. The escalation of tension in the West Bank and Gaza has made investors wary. The enterprises themselves are also to blame for the slowdown. Many are burdened with inflated payrolls, poor management and heavy debts.

Petroleum production and all other minerals production is overseen by the Jordan Natural NRA, which regulates the NOC and private firms operating in the various minerals and mineral fuels sectors (USGS 1995, 2005).

More recently, the NRA has been signing PSA's with foreign companies to expand exploration for oil and gas and oil shale (USGS 2008)

NOC Presence
Coded 1 from 1995 to 2015; coded 0 all years prior.
NOC Ownership
Coded 0 for all years since PDC and NPC were never fully state-owned.
Production Status
Coded 1 from 1995 to 2015; 0 all years prior.
Majority Production Status
Coded 1 from 1995 to 2015, since the NOC is majority producer, despite the small levels of production.

Regulatory Capacity
Coded 0 for all years since the NRA handles regulation.
Competing NOC
Coded 0 for all years.

Kazakhstan

As in the other cases of former Soviet states, Kazakhstan's oil was discovered and managed by Soviet oil companies prior to the country's independence in 1991. The Nobel brothers first found oil in 1911, but the oil industry did not fully flower until the discovery of the massive Tengiz field in 1979 (Yergin 1991). The Tengiz field did not come online until 1991, during which time Gorbachev negotiated a PSA with Chevron and the Kazakh government to take on production (Skagen 2000). PSAs continue to be a major source of government collection of oil revenues, as these agreements have been signed for the country's major fields: the Tengiz, Karachaganak, Kurmangazy, and Kashagan fields (Olcott 2006).

The national oil company, KazakhOil, was established in 1996/1997 during a major reorganization of the energy sector with the creation of three separate ministries to oversee mineral resource management and licensing in the oil and gas, coal, and electricity sectors (Skagen 2000). Kazmunaigas (KMG) replaced KazakhOil as the national oil and gas company in 2002 by way of presidential decree but KMG was established as a joint stock company, making the country's NOC no longer owned 100% by the state (Olcott 2006). Nonetheless, since 1996, the country has had a NOC with production capacity but never enough to be the majority producer, given the dominance of IOCs in Kazakhstan's four massive oil fields. According to Olcott (2006), "[It] is the third largest oil producer in Kazakhstan, and has a minority stake in virtually all major oil and gas projects in the country and a controlling stake in most of the projects initiated since 2000" (Olcott 2006: 9).

Starting in 1995, joint ventures between the NOC and IOCs have accounted for the majority of natural gas production in the country and a minority of oil production (Skagen 2000). In 2005, the government passed a Production Sharing Agreement law which requires KMG to take a 50% stake in offshore projects (USGS 2007). The NOC does have authority to manage and oversee IOCs in the oil sector, along with the Kazakh oil ministry; as such question four is coded as 1 for all years after 1996 (the year KazakhOil was established). An interesting characteristic of Kazakhstan is the fact that its oil sector is privatized: the state sells its resources to foreign oil investors in the form of auctioning off its reserves, with the key example being the massive Tengiz field, officially sold to Chevron in 1991, though Chevron had been exploring there since the 1980s (Luong and Weinthal 2010).

NOC Presence
Coded 1 from 1996 to 2015; coded 0 all years prior
NOC Ownership
Coded 1 from 1996-2001, then coded 0 from 2002 (when the industry was reorganized and Kazmunaigas JSC replaced Kazakh Oil) to 2015.
Production Status
Coded 1 from 1996 to 2015.
Majority Production Status
Coded 0 for all years since IOCs dominate the country's oil sector in terms of production.
Regulatory Capacity
Coded 1 from 1996 to 2015 since the NOC works alongside the Ministry of Oil and Gas to perform regulatory functions (KMG website).
Competing NOC

Coded 0 for all years.

Kenya

Oil exploration began in Kenya in the 1950s, led by British Petroleum (BP) and Shell in a joint venture. Other companies soon joined and exploration steadily expanded both on and offshore through the following decades, though with no commercial success. Following the disruptive oil crises of the 1970s, the Kenya national government created National Oil Corporation of Kenya in 1981, as a wholly state-owned entity split between the Ministry of Energy and Petroleum and the National Treasury (National Oil website n.d.). National Oil is fully integrated and serves as the main policy arm for the government. It operates one exploration block, but does not produce any oil; most of its work and capacity lies with its downstream operations. As of 2015, there has been no commercial oil production in Kenya.

NOC Presence
Coded 1 from 1981 to 2015; coded 0 otherwise.
NOC Ownership
Coded 1 from 1981 to 2015.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 1981 to 2015.
Competing NOC
Coded 0 for all years.

Kuwait

Initial concessions were made in Kuwait while it was still a British Protectorate in late 1934 to the Kuwait Oil Company Limited (KOC), which was largely owned by the former Anglo-Iranian Oil Company (now BP). Initial concessions were offered with a fixed royalty rate until the terms of the contracts were changed in 1951 to make a 50-50 profit sharing agreement in the fashion of the changing nature of contract terms during the 1950s. One important detail of this concession agreement was that no other company could explore or produce oil in Kuwait since the contract covered all land in the country (save the Neutral Zone) (Stevens 2008).

In terms of the company, KOC was initially a joint venture between BP and Gulf Oil. Due to the terms of the initial concession, the company had extraordinary rights over all aspects of operations, effectively keeping the state shut out of all oil-related decisions. Pressures to nationalize were fomenting in the 1950s, but according to Stevens (2008):

> Voices began to be raised that nationalization was the solution. However, the rulers in the region remembering the fate of Dr. Mossadegh—who attempted nationalization in Iran, alienated Western powers, and soon found himself out of office—were wary about actually putting such a policy into practice (p. 11).

Nonetheless, the government entered the oil sector in 1960 and set up the Kuwait National Petroleum Company (KNPC). Interestingly, the state did not opt for full ownership, but retained a 60% share, preferring to offer the remaining 40% to private bidders in the country (Stevens 2008). Initially, KNPC could not access any concessions given the terms of the initial contracts with KOC; however, KOC "voluntarily" returned acreage to the government, under pressure from events in the surrounding region. Notably, the expropriation of the Western-owned Iraqi Petroleum Company ratified by neighboring Iraq in 1960 put pressure on KOC either to give up some of its concessions or be forced to do so under harsher terms set by the host government (Stocking 1970). At the time, KNPC began a joint venture with Hispanoil (the Spanish NOC) to develop and operate its newly acquired concessions since its operating capacity was not yet up to speed to handle E&P on its own. However, over time, KNPC was assigned to be a domestic downstream company, while KOC was to be the domestic upstream company, with several subsidiaries[5] fulfilling other operations.

During this period, there was pressure for the state to fully nationalize the company, starting in 1967 and fully out in 1968, when Saudi Minister Zaki Yamani declared that governments in the region should start to increase their share in the equity of the operating companies in their states until a 51% majority of shares was reached (Stevens 2008). At this time, in October 1968, the Kuwaiti government agreed to this participation strategy – since there were still foreign operating companies in Kuwait, notably KOC, despite the existence of KNPC – and in 1972, the

[5] This list includes KOC; KNPC; PIC; KOTC; KAFCO; The Kuwait Foreign Petroleum Exploration Company (KUFPEC) created in 1981 as an upstream operator in foreign markets; Kuwait Petroleum International Limited (KPI) created in 1983 responsible for all overseas downstream operations; and Kuwait Gulf Oil Company (KGOC) established in 2002 to manage Kuwait's share of upstream operations in the Neutral Zone. (Taken from Stevens 2008: 13n).

countries came to an agreement, known as the General Agreement on Participation to gain 25% equity shares in their respective operating companies and to increase that share to 51% by 1982 (Stevens 2008). The agreed-upon price for the expropriation with compensation of KOC was $200 per barrel of capacity (much less than Saudi Arabia's [$351], UAE's [$580], or Qatar's [$592] offers for expropriation with compensation) (Stevens 2008). The 25% share was increased to 40% in 1972, to 60% in 1974, and to 100% in 1975, when KOC (and others) became a fully state-owned company.

Since the expropriations of all operating companies in the country left the oil sector with a multitude of NOCs, the state decided to consolidate them all into one company. Therefore, the Kuwait Petroleum Corporation (KPC) was founded in 1980 to act as a holding company for all the other companies. Stevens (2008) outlines this process in detail:

> KPC was to be "A public corporation having economic character and (being an) independent corporate entity" … The Board was to be created by Amiri Decree 10 and effectively the shareholder was to be the Supreme Petroleum Council (SPC). The SPC was created by Amiri Decree on 26th August 1974. In its early life it had relatively little influence over oil policy. Power for this lay, formally, with a Cabinet Committee that consisted of the Prime Minister and several other ministers including oil and finance that had neither the time nor the necessary attention to the strategic requirements of the sector. The result was that the Government expanded the SPC and included a growing number of private citizens in the hope of making the SPC a more effective controlling body, and it was on this basis that the SPC began to increase its role (PESD Interviews 2007). This culminated in the SPC being de facto the sole shareholder of KPC and therefore effectively the controller of KPC's operations.

Thus, the NOC itself was much more an overseer for the other NOCs in the sector, but the coding for Kuwait is done as if all NOCs were under consideration given that the state was effectively in control of *all* aspects of the oil sector through KPC's many subsidiaries.

Meanwhile, since full nationalization in 1975, the oil sector remained almost entirely closed to foreign operators until around 1991 after the invasion by Iraq disrupted the industry. After that point, the government allowed KPC to solicit technical service contracts (TSAs) from foreign companies and later operation service agreements (OSAs) as well (Bacci 2011).

NOC Presence
Coded 1 from 1961 to 2015. Coded 0 all years prior.
NOC Ownership
Coded 0 for 1961 to 1974 and coded 1 from 1975 on to reflect when the Kuwait government took 100% ownership of KOC.
Production Status
Coded 1 for all NOC years, 1961 to 2015.
Majority Production Status
Coded 1 from 1974 to 2015. Coded 0 all years prior.
Regulatory Capacity
Coded 0 from 1961 to 1979; Coded 1 from 1980 to 2015, beginning with the establishment of KPC which has maintained regulatory authority.

Competing NOC
Coded 0 from 1961 to 1974 and then coded 1 from 1975 to 1979 when there were multiple, separate NOCs in the sector. Coded 0 from 1980 to 2015 since the NOCs have since been subsidiaries under KPC and not separate, competing entities.

Kyrgyz Republic

The Kyrgyz Republic is not a significant oil and gas producer, but does produce limited quantities; as of 2012, USGS estimates 150 million barrels of annual production, equivalent to 410 thousand barrels per day. Privatization of the post-Soviet NOC occurred in 1993, with the sale of most of the country's SOEs with the exception of its gold state-owned corporation (USGS, 1995). While there are national oil companies --- Kyrgyzneftegaz (KNG) and its subsidiary, Kyrgyz Petroleum Company (KPC)) --- the NOCs are downstream and distribution firms. KNG's main assets are refineries, while upstream production is handled by the British private firm Petrofac.

Given the NOCs' lack of upstream position, Kyrgyz Republic is not coded as being nationalized. Upstream production is handled by foreign private firms and licenses are contracted as concessions by the Ministry of Energy and Industry. As such, all questions are coded 0.

Liberia

National Oil Company of Liberia (Nocal) was founded in 2000 by the NOCAL Act of 2000. Soon after the NOC's founding, the government also passed the Petroleum Law of 2002 which established NOCAL's right to negotiate contracts as well as the state's ownership of all hydrocarbon resources in Liberia. Prior to this, the government allowed some exploration for oil by IOCs. According to a NOCAL briefing document, "Two phases of exploration activity occurred in the offshore sector of Liberia: During the first phase, 1970 to 1972, four wells were drilled by Union Carbide Petroleum Corporation, Frontier International Petroleum Inc., and Chevron Oil Company Liberia. In the second phase, 1983 to 1989, three wells were drilled by Amoco Liberia Exploration Company" (Akinsanya 2012). In 2000, Nocal hosted a licensing round to generate offshore exploration in the Liberia basin and ultimately awarded four blocks to three different companies (Nocal website n.d.).

As of 2015, there have been no commercial discoveries or production (only one potential commercial discovery). Nocal does not do most of the exploration itself but contracts with seismic data collecting companies and partners with the foreign companies who have the expertise, finances, and equipment to carry out exploration. Liberia passed a new petroleum law in 2014, eliminating Nocal's regulatory responsibility in the oil sector. In 2015, Nocal laid off the majority of its workforce after a long period of hiring unsustainably and racking up unsustainable costs in wages (Marcel 2016).

NOC Presence
Coded 1 from 2000 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 2000 to 2015; coded 0 all years prior.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 2000 to 2014; coded 0 for 2015 after the petroleum law was reformed.
Competing NOC
Coded 0 for all years.

Libya

The discovery of subsoil hydrocarbons in Libya dates back to the 19th century and early 20th when drillers for water wells noticed indications of methane gas and crude oil. The first survey was conducted by an Italian geology professor, Ardito Desio, who assembled a team from the Italian NOC, AGIP, in 1937. However, the start of the Second World War and a tense military climate in the post-war period delayed any further exploration. Finally, after becoming independent in 1951, Libya's new government allowed exploratory surveying by Libyan-American (subsidiary of Texas Gulf Producing Company) and CFP-Libye (a subsidiary of Compagnie Francaise des Petroles) in 1953. This led to the first commercial find in June 1959 by Esso at the Zeltan field after nearly 50 exploratory wells had been drilled in the 1953-1959 period.

In this initial period of production, the new regime had offered favorable terms for E&P with the Minerals Law of 1953 and the Petroleum Law of 1955, attracting a number of foreign oil companies to prospect for oil in the large swaths of remote desert – albeit with favorable geological conditions – that make up the majority of the Libyan landscape (Waddams 1980). The Petroleum Law of 1955 put in place the rules for obtaining survey permits and concessions, which were granted by The Petroleum Commission, to be governed by the Minister of National Economy and a Director of Petroleum Affairs. The terms were favorable to foreign operators despite the state maintaining ownership of subsoil resources and the state received the standard fees and royalties that were common in that period in a quasi-'fifty-fifty' arrangement where the royalties paid over time were supposed to approach the 50% profit share that the government was entitled to (See Waddams 1980: 59-70 for details on the Petroleum Law of 1955).

It became apparent in the 1960-95 period that the foreign operators were not "playing fair" with the apportionment of profits to the government. With the joining of OPEC in 1962, the Libyan government decided to amend the Petroleum Law in accordance with the recommendation of other OPEC countries to "work out a formula whereunder royalty payments shall be fixed at a uniform rate and shall not be treated as a credit against income tax liability" (Al Otaiba 1975: 144ff, cited in Waddams 1980:121).

Thus, on 14 Apr 1968, Royal Decree and Law No. 13 established the first NOC in Libya, the Libyan General Petroleum Corporation, or Lipetco as it came to be known. The company was created to "be the Government agency for carrying out its participation in a joint-venture agreement being negotiated at that time (the venture with Erap/Aquitaine)" (Waddams 1980: 175). According to Law No. 13, the company was meant to be involved in E&P and downstream activities as well as in the distribution of petroleum products; it also called for Lipetco to plan oil policy, set prices and protect price levels from getting out of hand in the domestic market, and to train Libyan employees with the expertise and skills needed to "occupy technical and administrative posts in the oil industry" (Waddams 1980: 175). However, very few of these goals were achieved: notably, the company had no role whatsoever in oversight and policy making, as these remained in the hands of the Ministry, which at this time was an independent entity from the NOC. In practice, the first joint venture required very little of Lipetco in the way of operations and financing since the company was provided loans at favorable interest rates by its French partners, and Lipetco's share of production was distributed and sold on the market by

the French companies. Therefore, the NOC at this time was not a producing NOC, nor an oversight NOC, but simply a "contracting shell" for all intents and purposes.

The Revolution on 1 Sep 1969 did not immediately affect oil production nor did it effect a change in oil policy. This changed in 1970, however, when Qaddafi's government replaced Lipetco with the Libyan National Oil Corporation, or Linoco, under Law No: 24/1970. The NOC was created to allow the government a stronger grasp over the oil sector and increase its participation. It started the year with just partnerships in joint ventures and a few service contracts, but by year's end, Linoco had produced its first barrel of crude after it expropriated assets from Esso and ENI in late 1970 (USGS 1970: 513). This was around the same time that the government imposed allowable production limits as well as new posted price agreements, which all IOCs (except Philips) begrudgingly accepted, with extremely high tax rates (reaching 58% of crude sales) (USGS). At this time, the IOCs were still the majority producers.

In 1971, the government nationalized BP's assets, leaving just Occidental, Amoco, Hunt, Amoseas, Mobil, and Oasis as the only remaining foreign operators not to be nationalized, while CFP and Gulf left Libya of their own volition. The nationalization of BP was sparked supposedly as a response to Britain's assistance to Iran in occupying Arab islands in the Persian Gulf (likely a response grown out of Qaddafi's pan-Arab sympathy). Also in 1971, the government began funding Linoco out of the state budget to improve its production and management of downstream activities: "The intent of the Libyan Government is to make Linoco an important factor in the country's petroleum industry and the economy" (USGS 1971: 558). It should be noted that in the years 1968-1972, production was declining in Libya due to the state's inability to market the oil it was slowly nationalizing (USGS 1972).

1973 saw the biggest year in terms of nationalizations. On September 1, 1973, the state decreed that it would expropriate (with compensation) the assets of Hunt Petroleum, as well as 51% ownership in Occidental, Oasis, Gelsenberg, and other remaining major oil company activities. If they refused, the state indicated that 100% would be expropriated. Linoco continued to engage in joint-ventures, PSAs, and participation, though oversight authority continued to be out of the company's hands, and shifted from the petroleum ministry to the newly founded Revolutionary Command Council (RCC). By 1974, Amoseas and the Libyan-American Oil Co. were fully nationalized, with Mobil and Exxon only giving up 51% of their ownership to the Libyan state.

The 1976-77 Revenue and Financial Law put oversight authority into the NOC, which would continue to the present day. The law was amended in 1980 with new production-sharing criteria for agreements with foreign oil companies: 85% for the state and 15% for the participating company for "highly significant oil prospects", 81% to 19% for "moderately significant oil prospects", and 75% to 25% for "less significant oil prospects" (USGS 1991, 146). From 1977 onwards, the NOC became the majority producer by virtue of its operations in the Sirte Basin as well as its many PSAs with foreign companies, notably AGIP of Italy (USGS 1991, 1994, 2005, 2007).

It should also be noted that as part of its production strategy, the NOC is divided into several fully-state-owned subsidiaries that are charged with operation of specific fields. For example:

Sirte Oil Co., Waha Oil Co., and Zuweitina Oil Co (see USGS 2007). This is a similar strategy to that pursued in Iran with NIOC and its many operating company subsidiaries.

NOC Presence
Coded 1 from 1968 to 2015 to mark existence of Lipetco, then Linoco. Coded 0 all years prior.
NOC Ownership
Coded 1 from 1968 to 2015. Coded 0 all years prior.
Production Status
Coed 1 for Linoco years only, 1973 to 2015. Coded 0 all other years
Majority Production Status
Coded 1 beginning in 1977 and through 2015.
Regulatory Capacity
Coded 1 from 1976 (when the Revenue and Financial Law gave oversight authority to Linoco) to 2015. Coded 0 all years prior.
Competing NOC
Coded 0 for all years.

Madagascar

As of 2015, there is no commercial oil production from Madagascar, though exploration efforts continue. Madagascar Oil, the IOC leading exploration efforts, was awarded a mining title to begin developing the Tsimiroro field which has proven reserves of over 1 billion barrels of oil (company website n.d.). PSAs were originally signed with the government starting in 1980, primarily with British and American firms, after the enactment of The Petroleum Code, Law No. 80-001 of June 6, 1980 (see USGS, 1995). Contracts were managed by the bureaucracy, the Office Militaire National pour les Industries Stratégiques (OMNIS), with the understanding that 51% of any operation would be owned by the government. USGS reports that "cost and production-sharing were financed by income tax payments and royalties based on achieved rates of return" (USGS, 1995).

Since the oil industry has not been nationalized and there is no NOC, all questions are coded zero.

Malaysia

Exploration first began in the Borneo region in the 1870s, with commercial production beginning at the turn of the century by Shell and Standard Oil (now Exxon). The 1910-1950 period was marked by decreased exploration and production as a result of both world wars, but renewed interest from IOCs began in 1960 (Lopez 2012). Instability in 1969 led to the creation of an emergency-state government led by the National Operations Council which had developed a pro-interventionist economic policy through the New Economic Policy (NEP) program (Jin 1992). The goal of intervention, with a particular emphasis on the utilization of natural resources, was "to sponsor the ethnic Malay community" and "positively discriminate in favor of the country's economically backward ethnic Malays by providing them with greater opportunities in education and business" (Lopez 2012, 812).

In conjunction with state plans for intervention on behalf of ethnic Malays, Lopez (2012, 812) identifies the oil price shock in 1973-74 as providing "incentives for the Malaysian government to adjust its relationship with foreign oil companies and seek a larger slice of the profits." Thus, a national oil company, Petronas, was established on August 17, 1974, under the Malaysian Companies Act, with full ownership vested in the state through the Ministry of Finance. During this early period, it is important to note that the state did not expropriate existing assets to create a NOC, but rather "called on IOCs to give partial interests in their projects and create Petronas from the ground up" (Lopez 2012, 813).

The NOC was set up to be the regulator of the national oil and gas sector and thus has had oversight authority over the oil industry since 1974. IOCs continued to handle operations until establishment of the Carigali operations arm of Petronas in 1979 (Bowie 2001). At that point, Petronas began expanding its operating capacity, benefiting from the transfer of knowledge received from the IOCs (Lopez 2012). Despite playing a key role in the oil sector, Petronas has never become the majority producer in the country.

The first PSAs were signed in 1974 when Petronas was established, with the government taking a 70% share of net production revenues, after Shell retained up to 20% of total revenues for cost recovery. The state also takes a 10% royalty on the gross profits of any PSA. Starting in 1979 when Petronas Carigali was created as the operating arm of the NOC, all IOCs were forced to take Carigali as a minority operating partner.

An interesting point about Petronas is that it has a direct link to the Prime Minister. Very little oversight of the company exists by the legislature or judiciary, or any bureaucracy. The company is relatively autonomous with decisions made by its board of directors, though the Malaysian Companies Act of 1974 stipulates that Petronas "shall be subject to the control and direction of the Prime Minister." The board itself has thirteen members, six of which are independent directors from the private sector and from abroad.

NOC Presence
Coded 1 from 1974 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1974 to 2015; coded 0 all years prior.
Production Status

Coded 0 until 1978; coded 1 from 1979 to 2015 to reflect the establishment of Carigali, Petronas's operations subsidiary.

Majority Production Status

Coded 0 for all years since IOCs remain responsible for the majority of production.

Regulatory Capacity

Coded 1 from 1974 to 2015.

Competing NOC

Coded 0 for all years.

Mexico

As one of the world's first oil producers, Mexico began producing oil in the early 1880s. After the First World War, Mexico became the second biggest producer, trailing only the United States. Starting with the 1917 Constitution, oil and minerals were declared the property of the state, though Standard and Anglo-Iranian (and other American and British companies) were the producers. These early years were also marked by political instability, with several groups claiming authority over the state and its collection of revenue; thus, the foreign IOCs were paying rent and royalties to a variety of government factions (Stojanovski 2008).

The 1930s brought with them a tumultuous period in Mexican oil politics with the combination of declining production and a labor dispute between Mexican laborers and the foreign oil companies. President Cardenas in 1937 attempted to mediate the dispute, but was shunned by the American and British companies, leading Cardenas to threaten expropriation if the sides would not resolve the labor dispute. To the IOCs' surprise, Cardenas went through with his threat and fully nationalized the industry in 1938 and replaced (expropriated) the foreign operators with Petroleos Mexicanos, or Pemex (Stojanovski 2008).

Though the state had initially set up two NOCs, one for production and the other for distribution, the two merged in 1940. But even starting in 1938, Pemex had full control with true vertical integration and complete access to state capital. Stojanovski (2008: 11) notes the reasons for this expropriation, beyond the mediation of the labor dispute (emphasis added):

> The government set an inward domestic strategy for the company, as Pemex was charged **primarily with satisfying domestic demand for oil products**. In this respect, Pemex differs from many other NOCs – notably the companies in the large oil producing countries of the Persian Gulf – in that it did not start out as export-focused and was **not created in order to be a mass source of revenues** for the government. Like Brazil's Petrobras, Pemex's **original focus was domestic**.

The foreign operators were initially exiled but were brought back into the country in the 1950s to help with dwindling supply from aging fields, but were then re-exiled in the 1960s and were scarcely invited back. It was around this time that the government established a research arm for Pemex, the Mexican Petroleum Institute, to aid in EOR and other tactics to boost production from its existing fields, and hopefully help to re-start exploration as Pemex had not invested much in exploration throughout the 1950s and 60s (due to the ease with which the company could extract crude from existing fields). The existence of this research arm has allowed Pemex to operate without foreign operators, a historical phenomenon that is quite unique in the oil world. Indeed, no PSAs have ever been signed, nor joint ventures, save the rare subcontracting of a service company.

It was not until 1974 that the government allowed Pemex to begin commercial exports, as the NOC had previously been limited to domestic sales only. And in 1976 the company made its most crucial discovery in its long history: the mammoth Cantarell field. Yet despite this discovery, within five years the oil price began its plunge and Pemex became overridden with debt. But despite its poor performance and financial struggles, it continues to be a symbol of national pride in a country that annually celebrates the day of nationalization (Fiestas Patrias). As Stojanovski recounts, "while Pemex's nationalistic sheen is wearing off, Pemex's national

significance remains very high and the masses overwhelmingly oppose any privatization or hints of opening up the sector to foreign involvement" (14). With new legislation in 2008, Pemex was granted the ability to enter into service contracts, though the company would retain its monopoly and the state its 100% ownership. However, as of 2009, President Calderon has opened the idea of selling a minority stake in the company to the public. As of 2011, this privatization has not yet occurred, and discussions of bringing in private investor have stalled.

Between 2013-2014, President Nieto signed into law several reforms aimed at increasing oil production in Mexico by opening the sector up to private investment and allowing Pemex to partner with private companies to explore for unconventional oil sources (Seelke et al., 2015).

NOC Presence
Coded 1 from 1938 (when Pemex was established) to 2015.
NOC Ownership
Coded 1 from 1938 to 2015.
Production Status
Coded 1 from 1938 to 2015.
Majority Production Status
Coded 1 from 1938 to 2015.
Regulatory Capacity
Coded 1 from 1938 to 2015.
Competing NOC
Coded 0 for all years.

Morocco

The country is thought to have large oil shale reserves in the undeveloped interior, with estimates from USGS to be somewhere between 15 and 22 billion barrels of recoverable reserves. As of 2014, production has never surpassed marginal levels, with only roughly 4 thousand barrels per day of production (1,500 thousand barrels per year). The government has signed PSA-style agreements with CNOOC for offshore exploration, close to the Western Saharan border, and with several other foreign oil companies as well.

Prior to 1980, the government's Bureau of Research and Mining Participations (BRPM) handled the coordination of oil exploration and production. In 1981, the government established a quasi-NOC, named the National Office for Research and Petroleum Explorations (ONAREP), allowing the state to enter into petroleum exploration agreements with foreign companies. ONAREP was also the body responsible for coordinating and managing the upstream petroleum sector, alongside BRPM. In 2005, the government merged BRPM and ONAREP, creating the National Office of Hydrocarbons and Mining (ONHYM). ONHYM, "an institution with legal personality and financial autonomy" continues to manage and regulate the oil and mining sectors, in accordance with the 1990 Hydrocarbon Code, amended in 2000 (USGS 1995, ONHYM website n.d.). By law, the state can own a maximum of 25% of any exploration project (ONHYM website n.d.) and since 2000, has had considerably favorable investment terms for IOCs.

Morocco is considered to be underdeveloped in terms of its petroleum industry, but exploration efforts of foreign companies have increased significantly in recent years, with emphasis on offshore areas.

NOC Presence
Coded 1 from 1981 to 2015, beginning with the establishment of state-owned ONAREP and including ONHYM. Coded 0 all years prior.
NOC Ownership
Coded 1 from 1981 to 2015, since both entities have been fully in the hands of the state.
Production Status
Coded 0 for all years since ONAREP and ONHYM have only participated financially and administratively.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 1981 to 2015 since both NOCs have been in charge of issuing concessions and permits to IOCs.
Competing NOC
Coded 0 for all years.

Mozambique

The national oil company, Empresa Nacional de Hidrocarbonetos (ENH), was founded in 1981 by Law nº 3/81 to research, produce, and market petroleum and to represent the state in petroleum operations (ENH website n.d.). Over the years, ENH has adapted its structure to fit the trends in the industry; it is currently a fully integrated NOC. Since 2000, ENH has also been heavily involved in upstream natural gas operations. According to the company website, ENH is currently only involved in petroleum exploration through partnership (ranging from 10-25%) with foreign companies. As of 2013, ENH held a 30% participation in developing the Temane and Pande natural gas fields (the country's main source of natural gas production).

NOC Presence
Coded 1 from 1981 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1981 to 2015; coded 0 all years prior.
Production Status
Coded 0 for all years
Majority Production Status
Coded 0 for all years
Regulatory Capacity
Coded 0 for all years
Competing NOC
Coded 0 for all years

Myanmar

Prior to independence from Great Britain, oil production was managed by the British-owned Burma Oil Company, which also managed any refining and distribution. Shortly after independence, in March 1963 oil operations were nationalized in the hands of the Public Oil Enterprise (also called the People's Oil Industry), a newly created state-owned oil enterprise. The USGS in its *1964 Minerals Yearbook* reports that:

> The British Burma Oil Co. was fully compensated by the end of 1963, ahead of schedule. Exploration by foreign concerns was indefinitely deferred. Instead, plans were made to buy additional drilling rigs. The exploration program for 1963-64 would cost 35 million kyats (about $7.3 million, at US$1 equals 4.72 kyats), approximately 3.8 million kyats more than actual expenditures in 1962-63. POI announced that it had made a 40-million kyat profit in the first 9 months of 1963, compared with a 8.5 million kyat loss in 1962. Apparently, faster extraction of known reserves and reduced salaries and wages to workmen contributed to this reported profit. (see 1964 volume IV, page 1266)

In 1970, the Public Oil Enterprise was unintegrated such that operations, distribution, and refining were handled by three separate entities: Myanma Oil Corporation, Petrochemical Industrial Corporation, and Petroleum Products Supply Corporation. The NOC continued to handle operations of the country's minimal oil production – roughly 4-8 million barrels per year (USGS 1963-1994) – and the country was largely closed off to outside investment for most of its history such that the NOC was the de facto monopoly producer. It was renamed to the Myanma Oil and Gas Enterprise in 1989, during which time the country also began signing joint ventures with international firms for exploration and production. These operations were limited such that MOGE maintains its status as majority producer, though USGS does not report specific percentages of operations.

Regulation was managed by the Ministry of Mines (in 2016 renamed the Ministry of Electricity and Energy) since the NOC's creation.

NOC Presence
Coded 1 from 1963 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1963 to 2015; coded 0 all years prior.
Production Status
Coded 1 from 1963 to 2015; coded 0 all years prior.
Majority Production Status
Coded 1 from 1963 to 2015; coded 0 all years prior.
Regulatory Capacity
Coded 0 for all years since the Ministry is the regulator.
Competing NOC
Coded 0 for all years.

Namibia

Namibia gained its independence from South Africa in 1990 and has been governed by the South-West Africa People's Organization party (SWAPO) ever since. In 1991, the state established a fully-owned NOC by the name of Namcor, which is mandated to "carry out reconnaissance, exploration and production operations either on its own or in partnership with other organisations in the industry" (Namcor website). Upon its establishment, Namcor was integrated into the Ministry of Mines and Energy (USGS). During the early 1990s, Namibia granted several offshore exploration licenses to foreign companies through separate licensing rounds; in 1999 the ministry changed the licensing structure to be open and allow for more exploration activities. According to the company's website, the state has awarded over 50 licenses and NAMCOR has played a fundamental role in advising the Ministry of Mines and Energy. On that note, there is some administrative overlap between the NOC and the Ministry, with the current Managing Director of NAMCOR having previously held the position of Petroleum Commissioner within the Ministry. The previous Managing Director was appointed to be the new Minister of Mines and Energy. Despite this overlap and NAMCOR's role in advising, the Ministry remains the concessionaire (Marcel 2016). As of 2015, there has been no commercial oil production in Namibia.

NOC Presence
Coded 1 from 1991 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1991 to 2015; coded 0 all years prior.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years since the Ministry is the concessionaire.
Competing NOC
Coded 0 for all years.

Netherlands

The home of the infamous phenomenon of 'Dutch Disease', the Netherlands discovered oil in 1943 at the Schoonebeek fields, following exploration by a Shell and Exxon joint-capital oil company, Nederlandse Aardolie Maatschappij (NAM). Of course, prior to discovery in its own territories, the Dutch had a long and storied tradition of hydrocarbon exploration vis-à-vis the Royal Dutch/Shell company. Though the Dutch state had a small stake in Royal Dutch/Shell in the latter years of the 19th century, the company became fully private in the early 20th century. RD/S of course was mostly involved in production overseas, in Borneo and Indonesia, later spreading out to the Middle East and North Africa.

Throughout its oil history, the Dutch hydrocarbons economy has been "privatized", albeit with a twist. The state founded EBN, a fully-state-owned oil and gas company, in 1973 to manage the hydrocarbons sector through joint-ventures and production-sharing. However, EBN has no true production capacity nor does it have any oversight: it is purely a contracting shell whose existence is to manage the Dutch government's national claims to oil and gas production. This is in reference to the government's self-proclaimed right to 40-50% of all oil and gas produced within Dutch territories (mostly offshore). The fields themselves were and continue to be operated by IOCs such as Amoco, Conoco Philips, Unocal, and NAM (Shell's investor-owned subsidiary), and EBN collects the government's share of revenues (after sale, not at the wellhead) (NAM n.d.). The company also plays an important role in exploration and monitoring the geology of existing and potential oil fields as well as their operators, so as to create a favorable business environment for the Dutch state.

According to Dutch laws, the company (quoted in their website) "EBN participates in the exploration for and production of natural gas and crude oil on the basis of joint-venture agreements. These agreements cover the rights and obligations of the license holders and EBN and the allocation of costs and revenues." EBN is normally involved in joint venture projects with a 40% stake but sometimes has a 50% stake, but the term "participates" is misleading since it does not refer to participation of the state in oil companies – the Dutch state has not expropriated assets from the IOCs, but it simply works alongside them through EBN and its PSA-style agreements.

NOC Presence
Coded 1 from 1973 to 2015.
NOC Ownership
Coded 1 from 1973 to 2015.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Niger

Exploration for oil in Niger began in the early 2000s, with the government signing production-sharing contracts first with Shell in 2003 and later with Petronas in 2011. As of 2015, the sector remains privately operated, with no plans for nationalization. Commercial production first began in 2011.

All questions are coded 0.

Nigeria

Exploration began in 1938 through concessions to BP and Shell covering all of Nigeria. Oil was discovered in Nigeria in 1956 by Shell and BP at the Oloibiri field, four years prior to the country's independence from the United Kingdom. By 1958, Shell-BP were producing and exporting Nigerian crude. In the late 1950s and early 1960s, however, revenues from oil were not significant, as production remained low. By 1966, with production coming online in the Eastern region and from offshore discoveries by Amoseas (now Chevron), production dramatically increased from 20,000 bpd in 1960 to 420,000 bpd in 1966 (Thurber, Emelife, and Heller 2010).

Shortly thereafter the country entered the brutal Biafran War starting in 1967, and ending in 1970. Thurber, Emelife, and Heller (2010) note that though the Biafran War did not significantly damage production despite the presence of most of the country's reserves in Biafra, "[t]he more significant long-term impacts of the war on Nigerian oil administration stemmed from the way that it strengthened the victorious central government and encouraged it to assert national control over oil" (12-13). Further, they argue, France's support of the defeated Biafrans sparked fears of rising foreign imperialism among state elites who, according to Onoh (1983, cited in Thurber et al.), wanted to reduce dependence on foreign firms operating in Nigeria's oil sector.

All of these events would lead to the approval of the Petroleum Act of 1969 restricting licensing rights to domestic or domestically-incorporated oil companies. Thus, in 1971, the state established the wholly-state-owned [Nigerian] National Oil Corporation (NNOC, later NNPC) as it expropriated 33% of the assets of two foreign operators (one of whom was French-owned Satrap, the other was a smaller IOC), and acquired a 51% participatory stake in all others (USGS 1971). It was at this time that Nigeria also entered OPEC, which "required member states to nationalize the oil industry" (Nwokeji 2007).

However, this was to be a different style of nationalization than seen elsewhere. Aside from the fact that the state participated in the oil sector rather than fully nationalize it, the Nigerian government set up numerous NOCs over the course of the 1970s. It also expropriated and further increased its shares in IOCs sporadically, up to the point that by 1979 the state had 60% of all the major concessions in the country (Thurber, Emelife, and Heller 2010, citing Ahmad Khan 1999). *In toto*, there are thirteen NOCs (really, they are more like subsidiaries) for which the Nigerian National Petroleum Corporation (NNPC) is the holding company and whole-owner (of 11) and part-owner (of 2, which are corporate business units that deal primarily with marketing and sales).

NNPC operates through joint ventures and production-sharing agreements (which are the norm for projects in which NNPC cannot contribute its own share of investment funding, see Nwokeji 2007). While NNPC has at least a 51% share in all concessions, the physical production of oil and gas in Nigeria is handled by foreign operators: nearly 90% of all production came from one of the Majors in the 1990s and 2000s, and while numbers are not available for earlier periods, historical accounts suggest that NNPC was never a physical producer or operator (see Nwokeji 2007 and Thurber, Emelife, and Heller 2010). This is of course the result of the fact that the key characteristic of a JV (and most of the time of PSAs) is that there is a single operator; in Nigeria, this single operator is almost always an IOC.

Throughout its history, NNPC has been the regulatory body for the sector, alongside the "under-resourced" bureaucracies, the Federal Inland Revenue Service (FIRS) and the Department of Petroleum Resources (DPR) (Thurber, Emelife, and Heller 2010). While NNPC is the de facto regulator, its powers of regulation and oversight are notoriously limited, as evidenced by its own inability to gauge total production or to fully collect revenues; the result has generally been under-collection of revenues due either to corruption or "sophisticated IOC accountants" making it difficult to ascertain true revenues (Thurber, Emelife, and Heller 2010: 19).

It should be noted that NPDC, the E&P arm of NNPC, has been engaged in developing its operating capacity. However, as no evidence of it currently having production capacity could be found, the question for production capacity remains coded as 0. Further, a piece of legislation entitled the Petroleum Industry Bill was introduced in 2008 and would see significant reforms in the structure of Nigeria's oil industry. As of 2015 the bill has not been enacted, but remains a topic of debate.

NOC Presence
Coded 1 from 1971 to 2015, from the founding of NNOC and the various other NOCs which make up NNPC.
NOC Ownership
Coded 1 from 1971 to 2015 since NNPC is wholly state-owned.
Production Capacity
Coded 0 for all years since the NOCs have never truly had any production capacity.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 1971 to 2015.

Norway

Norway's foray into nationalization began in 1972 with the establishment of the state-owned Statoil. It was founded for the purpose of conducting "[either] by itself or in participation or in cooperation with other companies, exploration and production, transportation, refining, and marketing of petroleum products" (cited in Grayson 1981: 199). In short, it was created as a fully integrated NOC. Oversight of the oil sector was left in the hands of the separate and independent Norwegian Petroleum Directorate and the Petroleum and Mining Department at the Ministry of Industry. The company was also established to fulfill non-commercial activities in the form of "supply security" and "fostering competitive Norwegian goods and services" (Grayson 1980: 199).

The division of responsibilities across operations, regulations, and policy is referred to as the "Norwegian Model" of oil sector governance. Thurber, Hults, and Heller (2010, 4) describe this structure in detail:

> "Norway has made a point of administering its petroleum resources using three distinct government bodies: a national oil company (NOC) engaged in commercial hydrocarbon operations; a government ministry to help set policy; and a regulatory body to provide oversight and technical expertise. In Norway's case, this institutional design has provided useful checks and balances, helped minimize conflicts of interest, and allowed the NOC, Statoil, to focus on commercial activities while other government agencies regulate oil operators including Statoil itself."

In 2001, the Norwegian government partially privatized Statoil, losing its full ownership in the company but retaining a majority position (81.7%). The reasons for privatization are rooted in the state's desire to create a more efficient company with better management control and its own corporate identity (Thurber and Istad 2011). Further, the company's full state ownership made it difficult to quickly obtain funds for investment due to the necessary parliamentary approval needed to access international capital markets. Thurber and Istad (2011, 623) also note that

> "[S]everal specific factors caused the Labour government to be relatively open at the time to the possibility of partial privatization: oil prices were low, putting a premium on efficiency; the industry was restructuring around the world, with private ownership on the upswing; and the NCS was nearing its peak oil production."
> The result of partial privatization was an improvement in operational efficiency through lower production costs, increased cash flow, and improved technology for offshore drilling (Thurber and Istad 2011). Six years later, the company merged with Norsk Hydro to become StatoilHydro.

In terms of production capacity, Statoil (and Norsk Hydro) had capacity to produce starting in 1972 but did not start operatorship until 1981, and became majority producers in 1989. The other operators in the market included ConocoPhillips, BP, Shell, and the predecessor to ConocoPhillips, Phillips Petroleum Group which had spudded the first offshore well in 1962 (Thurber and Istad 2011). There was a brief participatory period in 1971-1981 where Norsk Hydro and Statoil were equity participants in the Ekofisk and Gullfaks fields, until Statoil took over operatorship of Gullfaks in 1981.

NOC Presence

Coded 1 beginning 1972 with the establishment of Statoil and continuing through 2015; coded 0 all years prior.

NOC Ownership

Coded 1 from 1972-2002 and then coded 0 from 2001 to 2015 (after partial privatization).

Production Status

Coded 0 from 1972 to 1980; coded 1 from 1981 to 2015, after Statoil assumed operatorship of the Gullfaks field.

Majority Production Status

Coded 1 from 1989 to 2015; coded 0 all years prior.

Regulatory Capacity

Coded 0 for all years since the NOC has never been involved in oversight of the oil sector.

Oman

Oil was first discovered in Oman while it was still a British protectorate in 1962, long after the first exploratory concessions were given to the Iraqi Petroleum Company (then a consortium of American IOCs) in 1930 (Lenczowski 1960). After *de jure* independence from being a British protectorate in 1966, concessions continued to be granted to foreign operators as a means of extracting oil and gas found in the Sultanate (Almulhim 1991).

The first geological survey was conducted in 1925 (prior to the IPC exploratory concession in 1930), and though it was unsuccessful, it paved the way for the establishment of the Petroleum Development of Oman and Dhofar Limited. After the conclusion of the Dhofar Rebellion in 1972, this became simply the Petroleum Development of Oman Limited. The company worked alongside the Iraqi Petroleum Company as the Sultan (Said bin Taimur) had granted the IPC a 75-year concession (PDO n.d.). Much like the case of Qatar, the PDO was owned by a Western consortium. The current website offers a concise breakdown of ownership:

> The operating company had four shareholders, each with an interest of 23.75%: the Royal Dutch/Shell Group, the Anglo-Persian Company…Compagnie Française des Pétroles (TotalFina-Elf) and the Near East Development Company (whose likewise convoluted lineage would make it a subsidiary of today's ExxonMobil). The remaining 5% stake was held by a fifth shareholder, Partex (from PDO n.d.).

Oman first began exporting oil in the summer of 1967, around the same time that ownership of PDO shifted towards majority RD/S ownership - Shell had 85% of the company's shares, while CFP had 10% and Partex 5%. Production continued to increase in the 1970s as more wells came online in five new fields (Ghaba North, Saih Nihayda, Saih Rawl, Qarn Alam and Habur), making PDO the majority producer. With the price increases in 1973, exploration in more remote parts of the country became economically feasible, leading to more plays in the frontier eastern regions (PDO n.d.).

Ownership structure changed again on January 1, 1974, when the state first entered the oil industry by acquiring (with market price compensation) a 25% stake in PDO. This soon became a majority share when in June 1974 the government increased its ownership to 60% of the company (PDO n.d.). It appears that the 60% ownership was made retroactive to January of that year after the state took majority ownership in June (see PDO n.d. for details). Shell retained a 34% share, with CFP at 4% and Partex at 2%. This share breakdown has remained unchanged up until the present (at the time of writing, 2016).

This type of nationalization is among the "lightest" and most transparent in the region, given the government's actual *purchasing* of shares instead of the usual expropriation with little compensation. Of course, the country's small oil reserves --- the earliest figures estimated 2.5 billion barrels as of 1980 (BP, 2013) --- may have something to do with this "light" nationalization, given that the reward from nationalizing may not have appeared to be very high without keeping foreign operators involved. Indeed, much of the country's oil is heavy, and the reserves that are lighter have been in decline since the late 1970s. Therefore, the need for enhanced oil recovery (EOR) and horizontal drilling techniques (even in new discoveries) implicitly requires the foreign stakeholders to stick around. It is likely, then, (though evidence may not exist for this outside of communication with Omani officials) that the government knew

and continues to acknowledge the fact that very little oil would be produced were it not for the expertise of Shell and CFP/TotalFinaElf.

Given its shareholding arrangement, the company is relatively autonomous as a NOC, and manages its own budget. In fact, unlike many other NOCs, the company must obtain approval for concessions from the government and regulatory authority is vested in an independent and separate ministry.

In 1996, the Government established another oil company for the purpose of "pursu[ing] investment opportunities in the energy sector both inside and outside Oman" (Oman Oil Company website, n.d.). The company is 100% state owned and participates through equity shares in at least 10 different E&P projects (OOC n.d.).

NOC Presence
Coded 1 from 1974 to 2015 reflecting the nationalization of PDO.
NOC Ownership
Coded 0 for all years since PDO has never been fully state-owned.
Production Status
Coded 1 from 1974 to 2015 given that PDO has had production capacity since before it was nationalized.
Majority Production Status
Coded 1 from 1974 to 2015 (PDO prior to nationalization was already the majority producer).
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 1 from 1996 to 2015 to reflect the incorporation of Oman Oil Company; coded 0 all years prior.

Pakistan

Oil was first discovered in commercial quantities in 1952 by two private firms, Pakistan Petroleum Ltd (PPL) and Pakistan Oilfields Ltd (POL). However, because of limited success in finding viable reserves, private and foreign interest in exploration waned in the late 1950s. As a result, to encourage continued exploration the government established a NOC on March 4, 1961 with help from the Soviet Union in the form of financing. The NOC was incorporated as the Oil and Gas Development Corporation Ltd (OGDCL). This is captured by the following historical account from the company's website (http://www.ogdcl.com/about-us/History.htm):

> During the 1950s, [PPL and POL] carried out extensive geological and geophysical surveys and drilled 47 exploratory wells. As a result, a few small gas fields were discovered. Despite these gas discoveries, exploration activity after having reached its peak in mid-1950s, declined in the late fifties. Private Companies whose main objective was to earn profit were not interested in developing the gas discoveries especially when infrastructure and demand for gas was non-existent. With exploration activity at its lowest ebb several foreign exploration contracting companies terminated their operation and either reduced or relinquished land holdings in 1961.
>
> To revive exploration in the energy sector the Government of Pakistan signed a long-term loan Agreement on 04 March 1961 with the USSR, whereby Pakistan received 27 million Rubles to finance equipment and services of Soviet experts for exploration. Pursuant to the Agreement, OGDC was created under an Ordinance dated 20th September 1961. The Corporation was charged with responsibility to undertake a well thought out and systematic exploratory programme and to plan and promote Pakistan's oil and gas prospects.

The new NOC was given capital to explore by the state and was given autonomy to operate with directives made by a five-member board of directors.

A number of successful discoveries were made between 1968 and 1982, with OGDCL producing and operating these fields with the help of foreign service companies and oil firms, notably PPL and POL which remained private after the creation of OGDCL (USGS 1983). The NOC is nonetheless the majority producer of oil, though it should be noted Pakistan has never been a net exporter due to high domestic demand and insufficient domestic production levels.

Regulation is managed by the Petroleum Ministry, separate from the NOC, where in the Directorate General of Petroleum Concessions is responsible for the licensing of petroleum contracts (Tordo et al. 2009 and Ministry Website).

In 1989, the company made the transition to self-financing, meaning it could no longer rely on state capital for E&P. Privatization began in October 1997 when the government sold 5% of its shares to the domestic stock market, and continued in 2006 when an additional 10% was offered on the London Stock Exchange (OGDCL website).

In 2000, the 100% state-owned Government Holdings Private Limited was established to manage the Government of Pakistan's interest in joint ventures and to separate the commercial operations from the Ministry of Petroleum. According to the company website, GHPL is the "5th largest E&P Company in the country"; however, as a non-operator it does not handle production directly. Furthermore, "GHPL now has the right to participate in the petroleum exploration activities on full participation basis like other E&P companies. The company has exercised this

right in 2010 and taken 25% working interest in 4 exploration blocks operated by PPL" (GHPL website). Thus, the competing NOC variable is coded 1 for the years 2000 - present.

NOC Presence
Coded 1 from 1961 to 2015 beginning with the establishment of OGDCL (and now including GHPL).
NOC Ownership
Coded 1 from 1961 to 1996, prior to partial privatization. Coded 0 all years after.
Production Status
Question three is coded 1 from 1968 to 2015 given the company's production capacity beginning in 1968.
Majority Production Status
Question five is coded 1 for all producing years, 1968 to 2015, given OGDCL's status as majority producer.
Regulatory Capacity
Question four is coded 0 for all years given that regulatory authority is vested in the independent Petroleum Ministry.
Competing NOC
Coded 1 after the founding of GHPL in 2000 and continuing up to present.

Papua New Guinea

Petroleum exploration in Papua New Guinea (PNG) began after the 1973 oil crisis, with the government awarding around 30 exploration licenses to foreign companies during the 1970s and 80s. Shortly after attaining full independence in 1975, the national parliament of Papua New Guinea enacted the *Petroleum Act Ch. 98* in 1977 (Kuwimb 1997). At this time, the government did not have a national oil company, but did participate financially in some joint ventures through the Mineral Resources Development Corporation (MRDC), which was "the government's holding company for its mining equity stakes" (Curtin n.d.).

Specifically, the state participated in the Kutubu Petroleum Development Project, which was discovered in 1988/1989 and became the first project to producehy66 commercial quantities of oil successfully (Tuarika 1995). The state initially held a 22.5% interest in the project through a subsidiary of MRDC, Petroleum Resources Kutubu Ltd, but that percentage decreased to 6.75% by the year 2000 (USGS 1993, 2000; ExxonMobil n.d.). This decrease in participation reflects the government's broader structural reforms during the 1990s to reduce its participation in industry, and specifically mining and gas (Curtin n.d.; Fallon 2015).

As far as technical and administrative role in the petroleum and gas sector, PNG carried these activities out through their Department of Mining and Petroleum (DMP) until 2005 when the state established the Mineral Resources Authority (MRA). According to USGS (2000) mining and petroleum activities are regulated by the Petroleum Act of 1992 and regulatory activities were carried out by DMP and now MRA (Kuwimb 1997; USGS 2006).

In 2002, the government established the Independent Public Business Corporation (IPBC) as the overarching entity responsible for managing PNG's state-owned enterprises. The IPBC took over control of the Privatization Commission which had been established in 1991 with a mandate to lead the country's privatization efforts and had ownership control over state-owned assets. As Fallon (2015: 24-25) describes, "essentially the IPBC had the responsibility and authority, on behalf of the State, to exercise trustee ownership and overarching business and financial management of certain SOEs and other State investments."

Some years later, in 2008, the government established the first version of PNG's national oil company – NPCP Kroton Limited, or Kroton No. 2 Limited. Around the same time, Petromin PNG Holdings Ltd. was established as another vessel that would hold PNG's oil and gas assets (Petromin PNG Holdings Limited).

Then, in 2011, the National Executive Council had Kroton 2 restructured into a business unit within IPBC, and later created the NPCP Holdings Ltd., a subsidiary 100% owned by IPBC (Kumul Petroleum website).

In 2014, the state ordered that all its petroleum assets (including those of Petromin, etc) be consolidated under the NPCP Holdings Ltd. company. NPCP Holdings Ltd. then transitioned into Kumul Petroleum Holdings Limited, through the Kumul Petroleum Holdings Authorization Act (2015). Kumul Petroleum Holdings Ltd. remains the current NOC and the result of the state's consolidation of all its oil and gas interests (Kumul Petroleum website). It acts primarily as a shell company with no production capacity or regulatory authority. Its primary function is

to manage the state's interest (16.5%) in the PNG LNG project, which is the first major natural gas development in the country (Kumul Petroleum website).

NOC Presence
Coded 1 from 2008 to 2015; coded 0 all other years.
NOC Ownership
Coded 1 from 2008 to 2015.
Production Status
Coded 0 for all years
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Peru

Peruvian oil was first discovered in the early 20th century and by 1929, oil made up 30% of Peruvian export revenues (ASCOA report). Expropriations first began 1968, the same year that the national oil company Empresa Petróleos del Perú (Petroperú) was established. At this point in time, Peru's minerals industry had already been nationalized with the establishment of Empresa Minera del Perú (Minero Perú).

The first fields to be nationalized were the La Brea and Parinas oil fields, then operated by the International Petroleum Company (IPC). USGS writes that one of the reasons for nationalization was the unfair sharing of wealth from the country's oil fields, with the President making a speech in February 6, 1969, in which he "claimed that IPC owed Peru over $690 million for the value of petroleum exploited from the La Brea y Parinas oilfield since 1924 without legal title" (USGS 1969: 571).

In 1973, the Ministry of Energy and Mines rewrote the official government mandate for mining and petroleum operations to pursue a "policy of development and state operation of large mineral deposits" (USGS 1973: 685).

By the same year, Petroperú was a fully operational and integrated NOC, with E&P capacity both onshore and offshore (the Continental Shelf). However, it operated alongside several foreign firms through a concessionary system, including but not limited to Occidental, Belco, Amerada Hess, Hispanoil (Spain's NOC), and Total-Perú. By 1974, however, concessions were reneged, and new operating contracts were negotiated in the style of joint ventures between Petroperú and foreign companies. That year the NOC had a total of 18 joint venture operating contracts.

Throughout the 1980s and early 1990s, Petroperú was noticeably underfunded and could not invest in new exploration (USGS 1983, 1995). The NOC was forced to contract out its own concessions to Occidental and Royal Dutch Shell (USGS 1983: 604). These contracts were incentivized by the state's reform of contract terms in early 1983.

In 1993, the state passed Law No. 26221 which created another independent NOC (Perupetro S.A.) and gave it property rights to extracted hydrocarbons. This law required the transfer of all of Petroperu's contracts to Perupetro (Perupetro website). This new NOC was created to be a non-operating licensing authority and to promote outside investment in Peru's oil sector. Thus, regulatory authority is technically shared between the NOC and the OSINERG government agency.

Also in 1993, the state ended Petroperu's monopoly over the oil and gas sector as it sought to bring in more foreign and private investment (Spencer 2010). This process also involved selling off Petroperu's underperforming business units except for the La Pampilla refinery which is the largest in the country. From this point, Petroperu became only a downstream company. However, in 2013, the state approved Supreme Decree 012-2013-EM, which reauthorized Petroperu to conduct upstream activities (Petroperú ya está autorizada para explorar y producir hidrocarburos 2013). Most recently, the Peruvian congress voted to allow Petroperu to produce in Block 192 (http://www.theoilandgasyear.com/news/petroperu-permitted-for-upstream-production/). Because this only marks approval and not actual operatorship, the year 2015 is not coded for production capacity.

NOC Presence
Coded 1 from 1968 to 2015 to reflect the existence of the fully state-owned Petroperú and later Perupetro; coded 0 all years prior.
NOC Ownership
Coded 1 from 1968 to 2015; coded 0 all years prior.
Production Status
Coded 1 after 1973, the first year the NOC became a producer, and continuing until 1993.
Coded 0 after the passage of Law No. 26221 and the creation of Perupetro.
Majority Production Status
Coded 0 for all years since Petroperu never became a majority producer.
Regulatory Authority
Coded 1 beginning in 1993 with the establishment of Perupetro, a licensing authority.
Competing NOC
Coded 0 for all years since the two NOCs perform different functions and Petroperu began operating mostly downstream after the creation of Perupetro.

Philippines

Shortly after the oil embargo crisis of 1973, the Philippine government established the wholly-owned Philippine National Oil Company (PNOC) by Presidential Decree 334. At that same time, the government also acquired Esso Philippines, Inc. (PNOC website). The NOC was created to help ensure an adequate supply of oil for the country and it is officially mandated to undertake "actual exploration, production, refining, tankerage and/or shipping, storage, transport, marketing, and related activities concerning oil and petroleum products" (PD 334).

Beginning just three years after the creation of PNOC, the government established a number of subsidiary companies under PNOC to encourage further exploration and development as well as to expand their downstream and other fuel capacities. PNOC Exploration Corporation (PNOC EC) is the upstream subsidiary and participates in both oil and gas development. During the 1980s, the government began consolidating these subsidiaries, and in the 1990s began privatizing several of them as well; the upstream sector remained intact, however (PNOC website).

Oil production in the Philippines has always been in the hands of foreign companies, though PNOC EC does operate a gas-to-power project and has conducted its own oil exploration activities. According to PNOC EC's website, they currently are engaged in seven petroleum service contracts (PSCs) with foreign companies.

PNOC does not have any regulatory authority and operates much like a commercial entity. The country's Department of Energy is the main body responsible for awarding contracts.

NOC Presence
Coded 1 from 1973, beginning with the creation of PNOC, to 2015. Coded 0 all other years.
NOC Ownership
Coded 1 from 1973 to 2015 since the government has maintained full ownership of the NOC despite privatizing some of its subsidiaries.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Poland

Polish oil production goes back to the mid-19th century, making it one of the world's select few early commercial producers of oil. Polish historians put the date close to 1854 with the establishment of the oil field in Bobrka and the petro-chemical research of Ignacy Łukasiewicz, father of the modern kerosene lamp (Orlen n.d.). However, despite the storied history of the Polish oil industry, Poland has never become a significant oil and gas producer, peaking at only $37 per capita in oil and gas rents in 1981 (Ross 2011).

Prior to the Soviet occupation of Poland in 1944/45, the oil industry was developed by a number of small private domestic firms, notably Łukasiewicz's oil company founded in 1854 in Bobrka. In August 1944, the Polish government officially established a petroleum ministry and the state's first oil company, Polski Monopol Naftowy (Polish Oil Monopoly), which was replaced in December 1945 by Centrala Produktów Naftowych (CPN, the "Head Office for Petroleum Products) (Orlen n.d.). The creation of CPN as a fully integrated and fully-state-owned company was part of the communist restructuring of the Polish economy after Stalin had taken Poland "under his wing." Whereas the Polish Oil Monopoly in 1944 was simply a shell for contracting, the CPN was a full NOC, typical of state-owned enterprises in centrally planned economies. The company however, did not have oversight of the oil sector, as this was left up to the petroleum ministry. CPN was then renamed "Union of the Oil Industry" in 1959, and then in 1982 as the Polskie Gornicstwo Naftowe i Gazownictwo Warszawa (PGNiG), still a fully-state-owned oil enterprise.

This continued until PGNiG was partially privatized in December 1995 and October 1996, following economic reform throughout the country in the state's efforts to transition to a market-oriented economy. For the period 1996-1999, the company was known as PGNiG S.A., with majority ownership still in the hands of the state. The company was further privatized in 2000 with the second public offering, and part was purchased by the investor-owned Orlen company, which had been a downstream operator since the privatization of the refining sector in 1993. A third public offering occurred in September 2005 and this was the only public offering which was truly "public" as shares were offered on the Warsaw Stock Exchange for the first time. [The other offerings were public in the sense that private oil firms could purchase pieces of the NOC without opening the sale to the mass public.] However, the state continues to own a majority of the company, with 72.4% stock ownership as of 2016 (see PGNiG n.d.).

NOC Presence
Coded 1 from 1944 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1945 to 1995 for the years of full ownership; coded 0 otherwise.
Production Status
Coded 1 from 1945 to 2015; 0 all years prior.
Majority Production Status
Coded 1 from 1945 to 2015 since PGNiG remains the leader in oil exploration and production despite the presence of foreign competitors; 0 all years prior.
Regulatory Capacity
Coded 0 for all years since the NOC never had oversight capacity.
Competing NOC
Coded 0 for all years.

Qatar

Historically considered within Gulbenkian's famous "red line," Qatar was fair game for the IPC consortium to explore and capture concessions. The first concessions were given in 1937 by the Al Thani family to IPC, which had discovered oil at Dukhan Number 1 in the north part of the Western Jebels province and began commercial exports of oil in 1947 at the country's first export terminal at Umm Said (Marcel 2006, Herb 1999). Oil operations in Qatar came to be handled by an IPC subsidiary consortium, Qatar Petroleum Corporation (QPC). This company, Petroleum Developments (Qatar) Limited changed its name to Qatar Petroleum Company Limited (QPC) and was owned by a consortium of Western IOCs: BP (23.75%), RD/S (23.75%), Compagnie Francaise des Petroles (23.75%), Standard of NJ (11.875%), Mobil (11.875%), and the Gulbenkian-owned Participations and Exploration Corporation (5%). The concession agreements were identical to those offered by Abu Dhabi, Iraq, Bahrain, and Oman: concessions were only granted to British, and later American, companies, with the royalty rates fixed up until 1951 when profit sharing commenced. After 1951, Shell Qatar entered the market, sharing operations with QPC.

While QPC was responsible for onshore production mainly from the Dukhan wells, offshore concessions were given by the government in 1949 to Standard of New Jersey. Exploration only resulted in dry wells, however, and was halted until the 1960s when Shell took up offshore concessions. Shell Company-Qatar soon discovered oil in three fields offshore: the Idd al-Shargi in 1964, the Maydam Mahzam in 1965, and the Bul Hanin in 1972.

Due to considerable international pressure, the Al Thani did not nationalize in 1973 like its neighbors, but rather signed a participatory agreement similar to Kuwait and Saudi Arabia. In late 1973, the state purchased 25 percent of QPC and Shell Qatar and initiated an early form of the "buy-back" style production sharing agreement wherein the companies can "buy back" a percentage or the total amount of oil that the government owns (El-Mallakh 1979).

In this period, however, pressures began to increase from the public and the elite to demand new state institutions for the creation of a distributive state. By 1974, the non-oil sector in Qatar was minimal and unemployment outside the oil sector was high. The Al Thani saw an opportunity to acquiesce to both the public's and the elite's demands: by creating a national oil company, not only could the state provide employment and the means to establish a distributive state, but the Al Thani could create a large bureaucratic complex in which to house elite competitors to placate their demands for power (Crystal 1989). Furthermore, with Saudi Arabia as guarantor and OPEC as a shield to protect the small Gulf nation from international retaliation, Qatar found a window of opportunity where the threat of international response had been diminished. Thus in 1974, participation was abandoned in favor of creating a national oil company, Qatar Petroleum, on the foundation set by QPC.

QPC became a NOC in 1974 when ownership crossed the 50% threshold and QPC became Qatar Petroleum (QP) (Qatar Petroleum n.d.). Formal recognition of the NOC was made with Emiri Decree No. 10 in 1974 to be "responsible for all phases of the oil and gas industry" (Qatar Petroleum n.d.). It was a full NOC since the takeover of QPC provided the new NOC with majority production capacity.

While the Ministry of Energy is in charge of creating oil policy, QP manages the development of hydrocarbons in Qatar and has the authority to award concessions and enter into joint ventures.

In 2006, production by IOCs (including through participation agreements and joint ventures with QP) slightly outpaced that of QP for the first year since its nationalization (USGS). This is confirmed by Qatar Petroleum's Annual Reports (see years 2005, 2007, and 2015).

NOC Presence
Coded 1 from 1974 to 2015.
NOC Ownership
Coded 1 from 1974 to 2015.
Production Status
Coded 1 from 1974 to 2015.
Majority Production Status
Coded 1 from 1974 to 2005; coded 0 from 2006 to 2015 when IOCs started to produce the majority of Qatar's oil.
Regulatory Capacity
Coded 1 for all years.
Competing NOC
Coded 0 for all years.

Romania

Oil was first discovered in commercial quantities in 1857, making it one of the world's first producers. Prior to the Petroleum Act of 1925, the industry was fully privatized and contained over a dozen operators, mostly owned by either British, German, or French investors. In 1924, the industry became slightly less privatized with the nationalization of the subsoil resources contained in the Mining Law of 3 July 1924 – in effect, the private operators remained un-expropriated but now they were producing from state-owned lands.

Expropriations began in 1942, with the passing of the Petroleum Act of that year. Jordan (1955: 15) notes the specifics of the Act with respect to state intervention:

> Article 136 of the Petroleum Act of 1942 established the general principle that the Romanian state was the supreme authority for the entire oil economic policy in regard to granting and cessation of prospection, exploration and exploitation rights, control in the oil fields and the refining and marketing of oil products.

There was no NOC – the private operators were still the only producers (some Romanian, but mostly foreign) but they were essentially run by the state. This is an odd form of state participation whereby the state does not employ a NOC but rather controls the existing operators by means of expropriation with compensation (or in some cases without). At this point in time, the Ministry of Mines and Petroleum, along with the Commission for Oil Coordination were the regulators of the industry, managing contracts and approving applications for explorations on an annual basis (see Jordan 1955, pages 14-17).

In 1948, a NOC was established with the new Constitution of the Romanian People's Republic of April 13th of that year. Article 11 laid the foundation for state-control of the industry: "when the general interest requires it, the means of production…which are private property, may become property of the State, that is, common property of the people" (as quoted in Jordan 1955: 32). One by one, 32 private operators were nationalized in 1948, with their shares expropriated with compensation by the Office of the Fund of Nationalized Industries, a sub-division of the Ministry of Finance (in accordance with the Nationalization Act of that year). Managers were replaced as seen fit by the Office, making each of the nationalized companies essentially mini-NOCs. But before the year 1948 was over, the Council of Ministers and the Ministry of Mines and Petroleum decided to create a state commercial enterprise by the name of Petrolifera Muntenia Oil Company. Muntenia thus became the country's NOC, taking over the nationalized assets of the existing private firms and with the stated intention of "exploration, exploitation, and development of oil pools, as well as the refining of crude oil and the transportation through pipelines and distribution of oil products" (Jordan 1955: 37).

At this point in time the Romanian oil industry saw a great shift in management – as Jordan (1955) notes, "most of the leaders of the oil industry were arrested, and after highly publicized trials were sentenced to long prison terms on trumped-up charges for such crimes as economic sabotage or espionage for the Americans or the British" (36).

The National Agency for Mineral Resources, created in 1994, is the regulatory body. In 1997, the company became Petrom, S.A. which was then privatized in 2004 and sold to the Austrian company, OMV. Thus, the country no longer had a NOC after 2004.

NOC Presence
Coded 1 from 1948 to 2003 to reflect Petrom's privatization in 2004 and coded 0 thereafter.
NOC Ownership
Coded 1 from 1948 to 2003; coded 0 all years after.
Production Status
Coded 1 for all NOC years, 1948 to 2003; coded 0 all years after.
Majority Production Status
Coded 1 for all NOC years, 1948 to 2003; coded 0 all years after.
Regulatory Capacity
Coded 1 from 1948 to 1994 when the National Agency for Mineral Resources was established and became the regulator of the oil sector; coded 0 all years after.
Competing NOC
Coded 0 for all years.

Russia

Russia's transition from communism and state socialism to capitalism had a strong impact on the oil and gas economy. In 1991, the Soviet system of horizontally integrated ministries and hydrocarbon entities was dismantled; in its place the new Russian state formed a single ministry, Mintop-Ministerstvo topliva i energetiki RF (the Ministry of Fuel and Energy of the Russian Federation), designed to regulate the new market type oil and gas economy (Lane and Seifulmulukov 1999). The other ministries and associations were taken over by private firms and corporations, though the state established the Rosneftegaz association in 1991 to administer 47 different regional oil extraction units (assets of the former USSR Ministry of Oil and Gas). However, these 47 units gradually became independent entities starting in late 1991 and, in an effort to maintain state control, in 1992 the Russian Federation planned to create holding companies and subsidiaries made up of a dozen vertically integrated oil companies along with smaller firms to compete with one another. In 1993, Rosneft was created based on the foundation of Rosneftegaz.

Importantly, the government did not follow the path of nationalization that other oil-rich countries had taken, but instead set up state holding companies made up of competing oil companies while still collecting rents and taxes for the state. To maintain government control, at least 38 percent of shares were owned by the government but with a minimum of 51 percent of voting shares (Lane and Seifulmulukov 1999). The state enterprise Rosneft was also a holding company, as it had majority shares in many of the oil and gas subsidiaries, but as an operator it only produced a small share of Russia's oil (2% in 1998) (Lane and Seifulmulukov 1999). However, Rosneft was not a traditional oil company – in fact it was more of a "voluntary union of oil enterprises" (Considine and Kerr 2002: 232). The four major vertically integrated companies that came out of the privatization process did not include Rosneft, but included LUKoil, Yukos, Surgutneftegaz, and Sidanko. Rosneft was the only one of the integrated oil companies that remained fully state-owned and in the late 1990s the state pushed for Rosneft to acquire more assets and become a stronger player in the sector. As of 2015, Rosneft remains the largest oil company in Russia in terms of reserves, production and market capitalization (Mitrova 2014).

In the 1993-1997 period (privatization began in 1993 following a presidential decree in November 1992) the government owned majority shares in the holding companies, which in turn held majority shares in the subsidiary companies (Lane and Seifulmulukov 1999). By 1996, the reconfiguration of the oil industry had left the sector largely unregulated and by 1998, thirteen major and minor integrated oil companies managed the majority of production, with several smaller domestic firms, along with a number of joint ventures between Russian companies and foreign IOCs and NOCs. By 1998, "government ownership in the largest oil groups has declined considerably—it is no longer the majority owner in many holding companies" (Lane and Seifulmulukov 1999: 18). In 2006, the government placed about 15% of Rosneft's shares on the London and Moscow stock exchanges to generate revenue.

In recent years, collapsed oil prices and sanctions on Russia have led President Putin to shift back towards privatization. After a major sale of Rosneft's shares in 2016, the Russian government currently owns only 50.00000001% equity in the NOC; according to the company website, "BP holds 19.75% of shares, QHG Shares Pte. Ltd. holds 19.5% of shares, one share

belongs to the state represented by Federal Agency for State Property Management, whereas the remaining shares are free floating" (n.d.).

A discussion of natural gas is also warranted here. While the oil industry is somewhat deregulated and weakly integrated, the natural gas industry is dominated by Gazprom, a single united enterprise with majority state ownership, which produces and has produced since 1991/1992 the majority of natural gas. However, since the focus of this study is not specifically natural gas, all coding decisions are made with regard to Russia's oil sector.

NOC Presence
Coded 1 from 1991 to 2015 to reflect the existence of the Soviet consortium of companies (1991-1992) and Rosneft in the years after.

NOC Ownership
Coded 1 from 1991 to 2005 (to reflect that Rosneft remained fully state-owned even while other companies were being privatized); coded 0 from 2006 to 2015 to reflect the sale of 15% of Rosneft's shares.

Production Status
Coded 1 for all years since the NOCs (Rosneft and the majors included) all have production capacity.

Majority Production Status
Coded 1 from 1991 to 1997 since the majors were at that time majority owned by the state and technically considered NOCs. Coded 0 from 1998 to 2015 since the majors dominated production (and not Rosneft) and since the majors were not majority state-owned (even though Rosneft has since outpaced the other domestic companies, it still does not account for the majority of Russia's domestic production).

Regulatory Capacity
Coded 1 for years 1991-1997; coded 0 thereafter based on the privatization of the sector and the loss of control by Rosneft of oversight of the domestic majors (which had by 1998 become privatized).

Competing NOC
Coded 1 from 1991 to 2003 when Bashneft became majority privately owned; coded 0 from 2004 to 2013 after the other NOCs were no longer majority state-owned, leaving Rosneft as the state's primary NOC. Coded 1 again from 2014-2015 after the state assumed control of Bashneft after its primary shareholder was put under house arrest (Kramer 2016).

Saudi Arabia

The first successful oil concession in the Kingdom was the 1933 drilling agreement between King ibn-Saud and the Standard Oil Company of California (Socal). After the discovery in 1938 of what Socal called a "veritable oil bonanza" the company joined forces with Texaco in setting up a joint-stock concern, the Arabian American Oil Company, or simply Aramco.[6] Aramco soon discovered that it enjoyed a substantial market advantage over Western oil companies because of the relative ease in extracting Saudi oil: production costs per barrel were less than half of the unit costs of producing American oil (Mikdashi 1966, 94). Thus, the company enjoyed a sizeable profit-margin when compared to operators in other oil producing states at the time.

King ibn-Saud's desire to maximize oil revenue came not in the form of nationalization, but instead pushing Aramco for higher levels of production. So much so that Texaco's president later remarked to the Federal Trade Commission, "In order to keep King ibn-Saud satisfied with the operation of the concession, it is important that production be increased substantially so that the King would receive greater royalties."[7] In order to expand production, the Aramco consortium grew from just a joint venture of two companies to a group of four companies including Socal, Texaco, Jersey, and Socony.

By the 1940's, the Saudi government was pressing Aramco to give them a greater share of its income tax payments that were being paid to the United States. In 1948, Aramco's Chairman testified before the U.S. Congress that the company acquiesced to the king's demands to divert the money that was supposed to be paid to the IRS instead to the king's treasury:

> [The Saudi government] wanted more. They asked as early as 1948, "Isn't there some way in which we can get a greater take?" and a little later than that they said, "Isn't there some way in which the income tax you pay to the United States can be diverted to us in whole or in part?"[8]

On December 30, 1950, the company signed an agreement whereby the Saudi government taxed the net operating revenue of Aramco to the point of creating an equal 50-50 split of revenues. By 1952, Aramco revised the 1950 agreement and provided for a complete split of the profits *before* any payments were sent to the U.S. in the form of income taxes, effectively giving the Saudi government a greater share in operating revenues and profits than Aramco itself.

By 1960, the Saudi government had collected up to $334 million per year in oil revenues on 480,000 barrels per day of production (revenues of $1.90 per barrel), up from $18 million in 1947 on 90,000 barrels per day ($0.55 per barrel), prior to the 50-50 agreement (Stevens 2012). The increase in state revenues per barrel after the 1950 and 1952 agreements was seemingly enough to keep the Saudi state satisfied and not push for nationalization, even after other nationalizations exposed the weak leverage held by foreign firms under the pressure of states

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6 Standard Oil Company of California (1946), *Autumn Bulletin*, 33 (7): 1-2.

7 Subcommittee on Monopoly of the Select Committee on Small Business, U.S. Senate, *The International Petroleum Cartel: Staff Report to the Federal Trade Commission* (Washington, DC: 1952, 124).

8 United States Congress, *Emergency Oil Lift Program and Related Oil Problems, Hearings* (Washington, DC: 1957, 1429). Cited in Mikdashi 1966, 149.

seeking national sovereignty over resources, as in Iran in 1951 and later Venezuela in 1960 and Iraq in 1964.

Still, the pressures for Arab nationalization were too great to leave a foreign company unfettered by the state despite its strong track record for employing nationals and giving the state a fair share of revenues. By the start of the 1967 Six-Day War, these pressures reached their highest level since the 1951 Iranian nationalization, and Saudi Arabia had to respond to the demands of other Arab states for national sovereignty over foreign-owned oil resources. Then-minister of oil Zaki Yamani developed the idea of state participation wherein producer states would gradually increase their equity share in foreign private operating companies over time (Stevens 2012). This resulted in the 1972 General Agreement on Participation which gave the Saudi government a 25% share in Aramco and all other oil companies that was scheduled to rise to 51% in January 1982.

While other Arab countries pursued full nationalization in 1972-73 – notably Algeria (1972), Libya (1973), and Kuwait (1972-76) – Paul Stevens notes that in Saudi Arabia "most elites believed that continued ownership by the US majors would be more lucrative to the kingdom than outright nationalization" (Stevens 2012, 181).

However, in 1974 the participation agreement was accelerated so that the Saudi state would acquire a 60% interest in Aramco, making 1974 the first year of a majority state-owned NOC in Saudi Arabia (see http://www.saudiaramco.com/en/home/about/history/1970s.html). Aramco was still an operating company and produced the majority of the country's oil, with smaller independent companies operating some fields in the Eastern Corridor. By 1980, the state held 100% of the company and the name was changed to Saudi Aramco. Interestingly, the 100% ownership was made retroactive to take effect in 1976, with the state collecting additional profits as "back taxes." Participation would *de facto* end in 1979, concluding the 1973-79 participatory period. The ownership structure has remained the same since 1980 up until the present (2016).

NOC Presence
Coded 0 for all years until 1974 when the Saudi government first acquired majority ownership in Aramco. Coded 1 from 1974 to 2015.
NOC Ownership
Coded 1 from 1980 to 2015; coded 0 all years prior.
Production Status
Coded 1 since the establishment of the NOC, 1974 to 2015. Coded 0 all years prior.
Majority Production Status
Coded 1 from 1974 to 2015 to reflect the fact that Aramco was the majority producer in the country throughout the nationalization period (and even prior to it). Coded 0 all years prior.
Regulatory Capacity
Coded 0 for all years as regulation is handled by the independent Supreme Petroleum Council.
Competing NOC
Coded 0 for all years.

Seychelles

The island country of Seychelles gained its independence from Great Britain and Mauritius in 1976. A year later, the Seychelles People's United Party staged a coup and the country then became a socialist state led by France Albert Rene with several nationalized industries and companies (Avery 2017). The government established a NOC by the name of Petroseychelles in 1984 in order to promote and exploit the country's potential hydrocarbon resources and to gain energy independence. Prior to the establishment of Petroseychelles, Amoco had drilled three wells and, though they found evidence of oil and gas, they did not make any commercial discoveries. Limited exploration was carried out in the 1990s, but in 2013, the country decided to again invite foreign companies to bid for exploration blocks ("Seychelles: PetroSeychelles extends invitations to explore for oil"). Afran, a UK-based company and JOGMEC of Japan are the only two foreign companies currently holding exploration licenses. As of 2015, there have not been any commercial discoveries of oil but Petroseychelles remains the regulator and concessionaire.

NOC Presence
Coded 1 from 1984 to 2015; coded 0 all other years.
NOC Ownership
Coded 1 from 1984 to 2015; coded 0 all other years.
Production Status
Coded 0 for all years since there is no production in the Seychelles.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 1984 to 2015 since the NOC was founded with regulatory responsibility.
Competing NOC
Coded 0 for all years, though there is a downstream state petroleum company that handles supply and sells petroleum products.

South Africa

Exploration began in 1965 in Western Cape with the first well being drilled offshore in 1969 by Superior Group (a private oil firm) and the state-owned Soekor. The NOC was established in 1965 as a wholly state-owned corporation to explore and exploit oil and gas. It was set up with considerable autonomy, and was granted to explore and operate under a prospecting license from the state. However, commercial production did not begin until 1997, though production levels are still low (below 400 thousand barrels per day).

In 1998, the government published a White Paper indicating the need for a unified government strategy for the oil and minerals sector (South Africa Department of Minerals and Energy 1998). This publication led to reform of the sector, when in 2002 Soekor was merged with a new NOC, PetroSA, the Petroleum Oil and Gas Corporation of the Republic of South Africa. (PetroSA website n.d.).

The reforms also led to the creation of the Petroleum Agency SA in 2001, the sector's upstream regulator. The Petroleum Agency and Petro SA are both subsidiaries of the state-owned Central Energy Fund Ltd. The Agency was created to handle promotion and licensing of petroleum on behalf of the state and operates independently of the NOC. In 2002, The Mineral and Petroleum Resources Development Act made the Government the sole owner of mineral rights and required companies to comply within 5 years (USGS 2007).

Both Soekor and PetroSA have had production capacity and since 2002, PetroSA has been the majority producer; however, it should be noted that South Africa is a very small producer of oil (USGS 2005). The NOC partners with foreign firms in joint ventures, notably Pioneer Natural Resources Company for the Pioneer offshore oil fields and is presently engaged mostly in refinery activities.

NOC Presence
Coded 1 from 1965 to 2015.
NOC Ownership
Coded 1 from 1965 to 2015 since Soekor and now Petro SA have both been wholly owned by the state.
Production Status
Coded 1 from 1997 (the first year of production) to 2015. Coded 0 all years prior.
Majority Production Status
Coded 1 from 2002 to 2015.
Regulatory Capacity
Coded 0 for all years since regulation is handled by the Petroleum Agency SA.
Competing NOC
Coded 0 for all years.

South Sudan

In 2011, The Republic of South Sudan became the world's newest independent country after voting in a referendum to secede from Sudan. According to a report by the US EIA, "unified Sudan was the second-largest oil producer in Africa in 2010, outside of the Organization of the Petroleum Exporting Countries (OPEC)" prior to the split (EIA 2014). However, due to conflict and disagreement between the two countries, oil production sharply declined following South Sudan's secession.

The country's NOC, Nilepet, was originally established in 2003 under the government of the liberated areas in South Sudan, known as the Civil Authority for New Sudan (CANS). As expropriation of foreign assets is prohibited by law in South Sudan, Nilepet remains the only enterprise in the country that is entirely state-owned. After independence, the NOC assumed control of several of Sudapet's assets in South Sudan where there are significant oil reserves. Nilepet participates in joint ventures, namely with the Greater Nile Petroleum Operating Company, a consortium established in 1996. However, Nilepet's operating capacity remains minimal as most of the country's oil is produced by foreign national companies from China, Malaysia, and India (USGS).

Due to disagreements over transit fees with Sudan, the government of South Sudan shut down all petroleum production and exports in January 2012 (USGS). This continued for approximately one year and greatly impacted the revenues of both economies. Despite ending the shutdown, conflict that erupted in 2013 has kept oil production depressed.

The Ministry of Petroleum is the regulator of the oil industry in South Sudan and the Minister is required to approve all oil contracts before they go into effect per South Sudan's Petroleum Law (2012).

NOC Presence
Coded 1 from the country's independence in 2011 to 2015.
NOC Ownership
Coded 1 from 2011 to 2015 to reflect the government's 100% ownership of Nilepet.
Production Status
Coded 1 from 2011 to 2015.
Majority Production Status
Coded 0 for all years
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Soviet Union

Production in the Soviet Union had first started during the period of Imperial Russia in 1847, when oil was commercially drilled for the first time in history near Baku in modern Azerbaijan. After the 1917 revolution, the country nationalized all economic sectors and established a centralized command economy with Lenin's New Economic Policy covering the years 1921-1927, and thereafter with the initiation of a state-planned economy through the introduction of Five Year Plans.

Though a formal NOC was not created, the oil sector was composed of various oil and gas companies involved in different levels and regions of the hydrocarbon sector – individual entities existed for extraction (Nefteprom), refining (Neftekhimprom), distribution (under Gossnab), export (Syuzneft ekhsport) and exploration (under the Minnefteprom and Mingazprom ministries) – all controlled 100% by the state and managed by horizontally spread oversight organizations (Lane and Seifulmulukov 1999). From 1939-1946, that organization was the People's Commissariat of the Petroleum Industry, but the Commissariat was split in 1946 into two independent ministries: the Ministry of the Petroleum Industry for the Southern and Western Regions and the Ministry of the Petroleum Industry for the Eastern Regions, which had up until that point not been heavily explored (Ebel 1961). This dichotomous system was short lived, and in 1948 the two were merged to form the Ministry of the Petroleum Industry, USSR.

Interestingly, in 1954 the Ministry of Petroleum Industry of Azerbaijan SSR was formed to allow regional republic control over oil activity within the Azerbaijan SSR. In 1957 these ministries were abolished by Khrushchev and oversight for the oil industry was given to the republic *sovnarkhoz*, or the Regional Economic Council, an organization of essentially independent economic regions subordinate to the central economy, known as Gosplan, USSR (Ebel 1961).

NOC Presence
Coded 1 from 1916 to 1991, for all years of the USSR.
NOC Ownership
Coded 1 from 1916 to 1991 given the direct control over the economy by the USSR.
Production Status
Coded 1 from 1916 to 1991.
Majority Production Status
Coded 1 from 1916 to 1991
Regulatory Capacity
Coded 0 for 1916 to 1991 since no SOE had autonomous oversight of other companies in the country (this assignment was given to the ministries and after 1957 to the republic *sovnarkhoz*).
Competing NOC
Coded 1 from 1917 to 1991 given the various companies/agencies that were involved in oil and gas operations throughout this period.

Sudan

Oil exploration in Sudan began as early as 1960 and production began in 1978 following a state concession to Chevron in 1974. Further concessions were granted to Total (in 1980) and later to Arakis (in 1992). In 1996, the Greater Nile Petroleum Operating Company was formed as a consortium with Arakis as the operating manager (owning 25%) and CNPC, Petronas, and Sudan's state-owned enterprise Sudapet Limited owning the rest (Rone 2003). The government created the NOC in the same year, prompted by the creation of the GNPOC consortium.

Arakis, which had been acquired by Talisman Energy in late 1998, sold its 25 percent stake to India's ONGC and Sweden's Lundin in August 2002 (Ofcansky 2005). Sudan did not begin exporting oil until 1999 when it shipped 600,000 barrels from its new port (financed by GNPOC, i.e. CNPC) in late August 1999 (Rone 2003).

PSAs are the norm for contracts negotiated with the state, while tax-and-royalty concessions also exist (Rone 2003). The state's role in the sector is managed by the Ministry of Energy and Mining, which owns the Sudanese Petroleum Corporation (SPC) which in turn owns Sudapet, the state's NOC, which is the de jure regulator and supervisor of the oil sector. Generally, licenses to all concessions are owned by Sudapet, which after selling them maintains a 5-15% share of each license (Hansohm 2007).

It should be noted that the GNPOC consortium has been under heavy attack from Western critics who have urged multinationals to boycott the Sudanese oil industry due to the state's plethora of human rights violations and genocidal conflict with the population occupying the Southern regions (Rone 2003).

Sudapet is known for their lack of transparency: reportedly, SPC owns 50% of Sudapet but neither company publishes production reports or audits which were promised to the IMF by the Sudanese government, i.e. GNU, in 2006 but never delivered (Hansohm 2007).

After years of conflict, South Sudan voted in a referendum in 2010 for secession from Sudan proper, nationalizing Sudapet's assets in the south. While most of the crude reserves remain in South Sudan, Sudan retains the majority of infrastructure necessary to refine and export the oil and charges transit fees to South Sudan for their use. Disagreement over how much Sudan should charge has led to further conflict and significant disruption in the production of oil between the two countries. Furthermore, the decrease in oil revenues to the government of Sudan has hurt the economy of Sudan significantly.

NOC Presence
Coded 1 beginning in 1996 when Sudapet was established and continuing through 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1996 to 2015 as Sudapet is 100% state-owned; coded 0 all years prior.
Production Status
Coded 1 from 1996 to 2015 to reflect that Sudapet does have production capacity though it does not produce significant quantities of oil; coded 0 all years prior.
Majority Production Status
Coded 0 for all years.

Regulatory Capacity
Coded 1 from 1996 to 2015 given Sudapet's role as regulator and licensor in the industry; coded 0 all years prior.
Competing NOC
Coded 0 for all years.

Suriname

The first oil discoveries in Suriname were made in the 1960s by Shell, but early finds were non-commercial (Visser, et al. 2002). After the oil crises of the 1970s, the Suriname government founded a fully-owned oil company, Staatsolie, to execute new oil policy and partner in oil exploration/production with foreign companies. Exclusive mining rights belong to Staatsolie and foreign companies are invited to participate via production sharing contracts with the NOC (Visser 2002). For the first few years of its existence, Staatsolie partnered with Gulf Oil to gain technical support as it developed its onshore capacity. Gulf Oil also received a contract immediately after Staatsolie's founding to explore for oil offshore.

By 1982, Staatsolie was producing oil from an onshore well located in the Tambaredjo oil field. During the rest of 1980s, Staatsolie signed additional agreements with foreign companies for offshore exploration and increased its onshore production as result of increased drilling and steam injection (USGS 1988, Staatsolie website n.d.). This pursuit of foreign involvement culminated in the Petroleum Act of 1990 which sets the legal framework for attracting foreign investment (Staatsolie website n.d.).

NOC Presence
Coded 1 from 1980 to 2015.
NOC Ownership
Coded 1 from 1980 to 2015
Production Status
Coded 1 from 1982 to 2015.
Majority Production Status
Coded 1 from 1982 to 2015.
Regulatory Capacity
Coded 1 from 1980 to 2015 due to Staatsolie's role in overseeing the sector and provision over contracts.
Competing NOC
Coded 0 for all years.

Syria (Syrian Arab Republic)

With its centrally-planned economy and commitment to Arab nationalist principles, Syria's oil industry has been run by the state since the emergency transition to rule by the Baath party in 1962/63. With the assistance of the U.S.S.R., the state's NOC – the Syrian General Petroleum Authority (later the Syrian Petroleum Corporation) – began production in 1968, though non-commercial quantities had been produced in the 1950s (USGS 1989). The NOC was established at the time of the Baathist takeover and nationalization of the oil sector in 1964 (Heydemann 1999: 190). That same year, the state issued a decree "prohibiting the granting of concessions to foreign firms and vested sole authority for exploration and development…with the General Petroleum Authority" (USGS 1989: 81).

At the time of its inception, the company had production capacity with the assistance of Soviet technicians and engineers. Given the terms of the 1964 decree, the NOC had full control of the industry (including oversight of domestic operators/subsidiaries). The decree was reversed in 1974 and the state allowed foreign firms to operate in the sector only through 50-50 PSAs (notably with BP, Arco, Elf Aquitaine, Shell, and Total). The Al-Furat Petroleum Co., a 50-50 joint venture between SPC, Shell and CNPC handles the majority of upstream operations, led by SPC. In the 2000s, the state also created other joint-venture companies, including Deir-ez Zor Petroleum Company (split 50-50 between SPC and Total) which manages the Qahar fields.

Syria remains a relatively small oil producer and has been hurt in recent years by US led sanctions and war. In 2011, the government began inviting foreign companies to tender for offshore exploration and development as well as onshore shale prospects ("Fact Box: Syria's Energy Sector" 2011). By 2013, however, many foreign companies had ceased operations in Syria due to conflict, economic sanctions, and "the takeover by rebel forces of most of the oilfields in northeastern Syria" (USGS 2013).

NOC Presence
Coded 1 from 1964 to 2015.
NOC Ownership
Coded 1 from 1964 to 2015.
Production Status
Coded 1 from 1968 to 2015.
Majority Production Status
Coded 1 from 1968 to 2015, given the NOC's dominance in the sector.
Regulatory Capacity
Coded 1 from 1964 to 2015, given the NOC's control of the industry.
Competing NOC
Coded 0 for all years given that Al-Furat and Deir-ez Zor Petroleum Companies joint ventures and not independent of SPC.

Tanzania

Tanzania gained its independence from Great Britain in 1961 and was led by socialist prime minister (later president) Julius Nyerere from independence until 1985. As part of the Public Corporations Act. No. 17 of 1969, the Tanzania Petroleum Development Corporation (TPDC) was established as the wholly-owned national oil company with a mandate to undertake petroleum development in the country. The Petroleum Exploration and Production Act of 1980 makes the state the owner of all petroleum deposits in Tanzania and is "designed to create a favorable legal environment for exploration by oil companies" (TPDC website n.d.).

The NOC officially began its operations in 1973 (TPDC website n.d.). Since its founding, TPDC has had oversight and concessionary authority, but according to Marcel (2016), these roles will be transferred to the new Petroleum Upstream Regulatory Authority (PURA) per the 2015 Petroleum Act. Since 2008, the PSAs negotiated with foreign oil companies have had a minimum required equity for TPDC of 25%; in years prior, this minimum was 10-15%. While Tanzania is not an oil producer, it has a budding natural gas industry which has recently expanded due to a recent discovery of 46.5 trillion cubic feet of offshore natural gas (Tveit 2015).

NOC Presence
Coded 1 from 1969 to 2015; coded 0 all years prior
NOC Ownership
Coded 1 from 1969 to 2015; coded 0 all years prior.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years
Regulatory Capacity
Coded 1 from 1969 to 2015 (2015 is the last year of regulatory authority for TPDC).
Competing NOC
Coded 0 for all years.

Trinidad and Tobago

Exploration began in pre-independence days (prior to 1962) by the American Merrimac Oil Company, with reports of the first well striking oil in 1857. In the early years of the newly established state in the 1960s, the Trinidad and Tobagan government allowed foreign operators through concessionary contracts. Production costs in Trinidad were quite high in the 1960s and early 1970s given the geologic complexity of its subterranean reservoirs and quick aging/maturing of most of the country's fields, which requires EOR methods earlier than in most other fields. Singh (1989) notes that "until 1973, the (foreign) companies used this fact to squeeze concessions from the Trinidadian government" (Singh 1989: 35). Most of Trinidad's production shifted offshore starting in 1970, when 50.3% of total production was mined offshore, reaching a peak of 80.4% of total production in 1977 and staying the dominant method of production until the present day (as of 2016).

In 1969, the Trinidadian state expropriated BP's assets to create the Trinidad Tesoro Oil Company, a joint venture between the state and Texas-based Tesoro Petroleum Co. This move is coded as participation, since there was no outright nationalization, and the state held a 50% participatory share in the new company. Nationalization did not occur until 1974, when the government established the Trinidad and Tobago Oil Company (TRINTOC) in 1974 by expropriating Shell Trinidad (Singh 1989). Further, the state acquired Shell and BP's assets in the Trinidad Northern Areas company, previously a consortium of Shell, BP, and Texaco. TRINTOC, built on the remains of Shell Trinidad Ltd., started out in 1974 with production capacity but not oversight (which remained in the hands of the Trinidadian bureaucracy).

In 1993, TRINTOC merged with Trintopec (another NOC which replaced Trinidad Tesoro in 1985) to save costs and increase efficiency (USGS 1994). The state named this new NOC Petrotrin and it had much the same responsibilities in production and partnerships (JVs and PSAs) with foreign operators. Petrotrin is still the NOC as of 2016.

For the 1974-1992 period, TRINTOC was not the majority producer, nor even close to it, as foreign-backed operators dominated production (roughly 70% of production in the 1970s and 1980s is attributed to Amoco and Texaco). However, after the merger of the NOCs in 1993 and a partial acquisition of Trinmar, Petrotrin was able to increase its production relative to the years prior but remained a minority producer.

A side note is made here to show that the gas industry is also nationalized and run by Petrotin, (which also runs the refining industry) and the National Gas Company of Trinidad and Tobago LNG.

NOC Presence
Coded 0 for the 1962-1973 period, given that the sector was private for these years. Coded 1 from 1974 to 2015.
NOC Ownership
Coded 1 from 1974 to 2015 to reflect the existence of TRINTOC, Trintopec and later Petrotin, all 100% state-owned.
Production Status
Coded 1 from 1974 to 2015.

Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years since oversight and regulation has remained in the hands of the bureaucracy.
Competing NOCs
Coded 0 for all years.

Tunisia

Exploration for crude began in the 1950s and was finally discovered in the 1960s. Production began in 1966 (at the El Barma field) by a number of participatory 50-50 joint-ventures between the Tunisian government and various European companies, mainly ENI, Elf and Aquitaine. At this time, the minerals industry was mostly nationalized and the government played a large role in the economy; however, the oil sector had not yet been fully nationalized. Foreign firms participated in the sector in these early years through contracts that were generally favorable (according to USGS, particularly the summary in the 1981 yearbook).

The state created a "shell NOC", the Entreprise Tunisienne d'Activités Pétrolières (ETAP), in 1972 following the passage of the Hydrocarbon Law of that year (renewed in 2002). The updated law reduced tax rates for foreign companies willing to allow ETAP in on 40% of a concession; since then, ETAP has become a partner on more than 20 concessions. For much of its history, ETAP had no production capacity nor strong regulatory power; it was simply a shell for contracting until around 2010. According to ETAP's website, however, it is the operator of at least 4 concessions at the time of writing (2017) which account for a small portion of Tunisia's total production. Production remains mostly operated by foreign firms with ETAP as a partner, but not in the PSA-style agreement given the favorability of contract terms for the early NOC years. The use of PSAs began only in 1989, though the terms are generally favorable and production is split 50-50 or 55-45 in favor of the state (USGS).

NOC Presence
Coded 1 from 1972 to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1972 to 2015.
Production Status
Coded 0 from 1972 to 2009; Coded 1 from 2010 to 2015 since ETAP has become an operating partner on concessions.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Turkey

The modern Republic of Turkey emerged in 1923 after the collapse of the Ottoman empire during the first world war. During the 1930s, the then Minister of Economy, Celal Bayar, pushed for the development of Turkey's industrial economy (Waterbury 1993). His path of choice was through the establishment of several state-owned enterprises (SOEs) and large scale industrial projects including the development of petroleum. Despite growing openness towards and support of a private sector, the state founded in Türkiye Petrolleri Anonim Ortaklığı (Turkish Petroleum, or TP) in 1954 by Law No. 6327.

Turkish Petroleum was founded with a mandate to participate in exploration, production, refining, and marketing activities. Production by TPAO goes back to 1958 when the company discovered oil in the Germik field and began operating there (TPAO website; Yildizel 2008). Petroleum activities are governed by the Petroleum Law of 1954 and from the beginning, the state allowed foreign investment in the sector and joint exploration licenses. The government pushed for even more private investment during the 1970s and 80s and passed new legislation in support of this effort. Even still, TP retained a prominent role in E&P and became the majority producer by 1983 (TPAO website). As of today, TP accounts for around 75% of all domestically produced oil and its operations have been streamlined into just E&P (International Energy Association 2013).

The Ministry of Energy and Natural Resources regulates the petroleum industry, with the General Directorate of Petroleum Affairs (GDPA) overseeing licensing since 1973 (Arseven, et al. 2015). Prior to 1973, the petroleum law was administered by the Petroleum Administration which was established by the same law which created TPAO in 1954 (International Business Publications 2008: 33-34).

In 1994, the government initiated a privatization program which included many of the state-owned assets and companies in the mining industry, including some of the government's refineries; TPAO, however, remains state owned as of 2015. In 2013, a new Turkish Petroleum Law was passed and replaced the Petroleum Law of 1954 but this did not change GPDA's position as a regulatory authority. According to USGS, "the new Turkish Petroleum Law of 2013 removed the restriction on petroleum activities by foreign entities and on the number of licenses a company could obtain for a single petroleum district" (2013). The new law also removed TP's statutory right to obtain exploration licenses, forcing it to compete directly with foreign companies.

NOC Presence
Coded 1 from 1954, with the establishment of TPAO, to 2015; coded 0 all years prior.
NOC Ownership
Coded 1 from 1954 to 2015.
Production Status
Coded 0 from 1932 to 1957; Coded 1 from 1958 to 2015 after the discovery of oil in the Germik field.
Majority Production Status
Coded 1 from 1983 to 2015; coded 0 all years prior.
Regulatory Capacity

Coded 0 for all years.

Competing NOC

Coded 0 for all years.

Turkmenistan

Before independence in 1991, the Turkmen oil sector was operated by a number of independent SOEs overseen by the Soviet petroleum industry since 1917, such as Turkmenneft (Tukrmen Oil State Concern) and Turkmengaz (Turkmengaz State Concern) in charge of oil and gas operations, respectively. From 1991 to 1993, these companies continued to operate in the hydrocarbons sector even after the fall of the USSR. In 1993, President Niyazov dismantled these companies and placed all operations under supervision of the Ministry of Oil and Gas (Skagen 2000). Further, in 1997 an integrated ministry referred to as the 'Competent Body' was established to handle tenders and petroleum contracts (among other duties), superseding the NOCs in terms of regulatory power (Hagler Bailly Inc. 1997). This body was later abolished by a presidential resolution in 2005 and its authority transferred back to the Ministry of Oil and Gas (Watters 2011).

Since 1993, the government has engaged in few joint ventures and PSAs and the majority of E&P is operated by domestic SOEs, but the state does favor joint ventures with Russian oil companies Gazprom and Lukoi. The government did not sign PSAs with Western firms such as Mobil and the UK's Monument until 1998, but still specified that Turkmenneft holds majority rights in these agreements (with the exception of the Garashuzluk gas field) (van der Leeuw 2000). As of 2013, the state continues JVs and PSAs with outside firms, including CNPC and ENI (USGS 2013).

The NOCs have production capacity and are majority producers, though oil output is much lower than in the industry's heyday in 1970 when the country produced 320,000 bpd. In the 1990s, production averaged roughly 60,000 bpd.

NOC Presence
Coded 1 for all years, 1991 to 2015.
NOC Ownership
Coded 1 from 1991 to 2015, given the state's continued control over the industry.
Production Status
Coded 1 from 1991 to 2015.
Majority Production Status
Coded 1 from 1991 to 2015.
Regulatory Capacity
Coded 0 for all years since oversight has remained in the hands of government ministries.
Competing NOC
Coded 0 for all years

Uganda

Oil was first discovered in non-commercial quantities starting in the 1920s along the shores of Lake Albert. Exploration declined in the 1940-1980 period due to political instability in the country, but was later revived in the mid-1980s. In 1985, the government enacted the Petroleum Exploration and Production Act, followed by the Petroleum Exploration and Production Regulations in 1993; the Petroleum Exploration and Production Department (PEPD) in the Ministry of Energy and Mineral Development was established by the act, as the regulatory authority for managing exploratory licenses and concessions. Oil was not commercially discovered until 2006, by Tullow Oil along with CNOOC and Total (USGS 2012). As of 2015, there is no commercial production online.

Nonetheless, Uganda National Oil Company (UNOC) was set up in 2012 (under the Petroleum Exploration, Development and Production Act, enacted in 2013) as a national oil company to manage the country's nascent industry. The NOC was established to be a producer once production starts, with the understanding that foreign oil companies like Tullow will be producing the majority of the country's oil (Ojambo 2013). The contract structure is based on PSA-style agreements between UNOC and foreign companies (USGS 2012).

All questions are coded 0 for all years until 2013 given the lack of a NOC or even PSAs prior to that time. Only the questions regarding NOC presence and ownership are coded 1 for years 2013-2015.

United Arab Emirates

The case of the United Arab Emirates is quite distinct from the histories of its GCC neighbors. Formed in December 1971 as an amalgamation of seven different emirates (Ra's al-Khaimah joined in 1972), the UAE is the only federal dictatorship in the region. Given the degree of subnational autonomy in the country, it is fitting to discuss the case of the UAE not as a unified state but rather in terms of its distinct subnational units. Here, I only present the oil history of the Emirate of Abu Dhabi, as it historically has been the only major oil player in the UAE, with 94 percent of the country's oil production (Rai and Victor in Hults et al. 2011); as such the NOC in question will be ADNOC (The Abu Dhabi National Oil Company).

Exploration for oil in Abu Dhabi began more than 30 years before the formation of the UAE. In 1939, the ruling family – comprised of the Al-Nahyan dynastic monarchy along with smaller, closely-allied families (Herb 1999) – granted an exploratory concession for onshore development to the Petroleum Development in Trucial Coast Ltd (PDTC), a consortium formed in 1935 with Anglo-Persian Oil (BP), Shell, CFP (Total), Standard of New Jersey (Exxon), and Standard of New York (Mobil). The details of this concession were highly favorable to the Western oil companies: low royalties, no production sharing, and a 75-year concession time limit (at the time, most concessions were for 60-70 years). A similar concession was granted to the Abu Dhabi Marine Areas Ltd. (ADMA), another Western-backed consortium of multinational oil companies, for the rights to develop Abu Dhabi's offshore fields. Unfortunately for the Western consortia, it took 20 years to discover commercially viable oil reserves: the first proven reserves were discovered in 1958 (offshore) and the first exports were shipped in 1963.

The Emirates were also late to join OPEC. With Venezuela, Iran, Saudi Arabia, and other founding members participating in OPEC in 1960, the Emirates (as the Trucial States) joined in 1967 (Yergin 1993). One argument for the late accession of the UAE to the cartel is that the government lacked the capacity to influence its own oil market, not only because of the presence of the British as the protectorate of the Emirates, but also because of the relative novelty of oil development in its territory (Rai and Victor in Hults et al. 2011).

The decision to nationalize the oil industry was made in stride with the Emirates' independence from British protectorate status, as the first expropriations occurred in late 1971. Following the lead of Kuwait and Iraq, the ruling family in Abu Dhabi began the nationalization process by expropriating a 25 percent stake in PDTC and ADMA. However, unlike his regional counterparts, Shaykh Zayed Al-Nahyan decided not to completely nationalize the oil industry: with the creation of the Abu Dhabi National Oil Company (ADNOC), built on the foundations of PDTC and ADMA, in 1971, Zayed only maintained a 60 percent state share in the various consortia operating the country's fields (this 60% was managed by ADNOC) and allowed foreign investors to own the remaining 40 percent. In their study of ADNOC, Rai and Victor (2011) attribute this anomalous nationalization to the following causes:

> Unlike its peers in North Africa and the Persian Gulf, Abu Dhabi didn't fully nationalize its industry because its industry was at a much earlier stage of development; risks were much higher; and the country had little choice but to offer a large role for foreign ownership and operators.

The "risks" to which Rai and Victor are referring include not just the risks associated with nationalizing a nascent oil industry, but also the risks of a strong foreign response to the full expropriation of the Western consortia. Thus, the creation of ADNOC in 1971 was in fact a mixture of participation and nationalization – a compromise between the West and the internal conflict within the ruling families.

Still, in 1971 the company itself was fully state-owned and classified as "a limited-liability commercial entity under Abu Dhabi law" (Suleiman 1988, cited in Rai and Victor 2011: 9). Much occurred between 1971 and 1974 in the expropriation of assets, however, as the following passage from the company website illustrates:

> In 1971 the emirate established a national oil company, Abu Dhabi National Oil Company (ADNOC), to take over the state's interests in all oil and gas fields. The law authorized ADNOC to operate at all levels of the oil industry, both at home and abroad, and one of its first steps was to take 25% holdings in the two concessionary companies, ADPC and ADMA, on 1 January 1973, less than a year after a Japanese consortium called Japan Oil Development Company (JODCO) had acquired a 45% interest in ADMA. ADNOC raised its stake in each company to 60% in January 1974, and after that steadily broadened the scope of its activities, establishing a number of other subsidiaries.

In terms of oversight, ADNOC has no real regulatory power over the oil sector.[9] This is all vested in the hands of the Supreme Petroleum Council (SPC), which is chaired by the incumbent president of the UAE and ruler of Abu Dhabi (H.H. Sheikh Khalifa bin Zayed Al-Nayhan in 2011). Prior to the SPC's establishment in 1988, the Department of Petroleum fulfilled this role.

From its creation in 1971, the company was a producer of the majority of the country's crude, since ADNOC would hold at least a 51% share in any large concession. From the start in 1971, the government engaged in production-sharing with the foreign operators, who have remained in Abu Dhabi up until the time of this writing (as of 2017). As an example, the largest consortium is in charge of the Asab, Bab, Shah, and other fields onshore – this consortium is the Abu Dhabi Company for Onshore Oil Operations, which is 60% owned by ADNOC (the state), 10% BP, 10% Exxon Mobil, 10% Shell, 10% Total (USGS 2006). This example, which is representative of the other consortia, shows that the state holds majority interest in most of the country's petroleum production, up to this day.

NOC Presence
Coded 1 from 1971 to 2015.
NOC Ownership
Coded 1 from 1971 to 2015.
Production Status

[9] Rai and Victor (2011) note that "Formally, (ADNOC) is not assigned any regulatory power or controlling authority over the sector on behalf of the government. But given its central position in Abu Dhabi's oil and gas sector, ADNOC sways enormous influence over government decisions. Thus, like many other NOCs, ADNOC is continuously faced with the task of reconciling the interests of the government with those of commercial firms working in the sector" (page 9).

Coded 1 from 1971 to 2015.

Majority Production Status

Coded 1 from 1974 to 2015 when ADNOC first took a majority share in joint ventures.

Regulatory Capacity

Coded 0 for all years due to the SPC's control of oversight.

Competing NOC

Coded 0 for all years since ADNOC is the only NOC in Abu Dhabi, the emirate of concern for this essay.

United Kingdom

Though it had at one time presided over a great oil empire starting in the mid-19th century, the United Kingdom did not discover oil in its territory until 1940, and only meager amounts of it at that. The first sign of exorbitant reserves occurred in 1965 in the North Sea (the British part) by BP; the biggest finds were discovered later, between 1972 and 1976, accounting for a discovery of 17 billion barrels of proven and recoverable reserves.

However, it is a common misperception that BP (formerly Anglo-Iranian Oil Company) was a NOC upon its creation in the early 20th century. In fact, this very debate had been at the forefront of British politics in the pre-War period: in 1914, Churchill officially decided that while the government would hold two seats on the oil company's board of directors, the state would not play an active role (or hold ownership rights) in the company, except in times of emergency. Thus, nationalization in the UK did not occur until much later, in 1976. (Prior to that year, the government pursued privatization because of the high production costs of exploration and production in the North Sea.)

When supplies became tight in the midst of the oil crisis, the government decided it wise to enter the marketplace to secure oil for domestic consumption (this was a matter of some dispute between BP and the British government, for BP had refused to sell its oil exclusively to British consumers during the oil shock period). Indeed, the fear of shortages prompted some in parliament to promote the possibility of state intervention as a matter of national security.

This sentiment turned into a party platform, promoted by the Labour Party in its election manifesto in February of 1974: "(We will) take majority participation in all future oil licenses and negotiate to achieve majority State participation in existing licenses…set up a British National Oil Company…take new powers to control the pace of depletion, pipelines, exploration, and development" (cited in Grayson 1981: 179). However, participation was not pursued, but instead the creation of a national oil company was deemed a better approach, given that the gas, coal, and nuclear power sectors were all state-owned: thus, on January 1, 1976, the state established the British National Oil Company (BNOC).

The duties of BNOC were to explore, produce, refine, and distribute oil and oil products, alongside the other oil companies operating in the North Sea. BNOC never became the majority producer, since the multinationals maintained their own assets. In accordance with the Labour Party's election manifesto, BNOC was a conduit for state participation in the oil sector: companies would "voluntarily" allow BNOC to acquire up to 51% of their oil production (but not their equity assets) for the duration of BNOC's existence. Notably, BP signed a participation agreement with BNOC in July 1976 to enlarge the latter's access the crude in the North Sea. By 1977, almost all the multinationals had signed similar agreements with BNOC, including Shell, Esso, Mobil, and Texaco (Grayson 1981).

BNOC was never a regulator of the industry, but did serve an advisory role to the government regulators. As Hoopes (1994) notes, "BNOC thus had the dual role of competing against private oil companies in the North Sea as well as advising their regulators, and many saw these functions as contradictory," (60).

BNOC was short-lived, however, and Thatcher's Conservative wave of deregulation and privatization hit the company when its shares were first offered to the public in November of 1982, and by 1983, the government no longer retained 50% ownership. The "golden" share was finally sold in 1985 (to BP) and BNOC (which had been renamed in 1982 to Britoil, P.L.C., the original name of the company before it was expropriated) was no more.

NOC Presence
Coded 1 from 1976 to 1982 when BNOC was privatized. Coded 0 from 1983-2015 and years prior to 1976.
NOC Ownership
Coded 1 from 1976 to 1981, since 1982 marks the first public offering of BNOC, making it no longer 100% state-owned. Coded 0 all other years.
Production Status
Coded 1 for all BNOC years, 1976-1982; coded 0 for all other years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 0 for all years.
Competing NOC
Coded 0 for all years.

Uruguay

In 1931, the government of Uruguay created the National Administration for Fuels and Alcohol (ANCAP) to exploit and administer the state monopoly of alcohol, as well as importing, refining, and selling petroleum and its byproducts. The company's first refinery began its operations in 1937 and gradually expanded their capacity over the following decades. Law No. 14.181 of 1974 gave ANCAP the power to carry out all phases of oil operations through third parties by contracting out its services. This law also affirms the ANCAP's provision over contracting.

In 2002, the president signed an executive order allowing the privatization of ANCAP up to 51%, but the law overturned by popular vote the following year.

In 2011, ANCAP and PDVSA signed a joint venture to expand ANCAP's refining capacity as well as to develop crude oil in the Orinoco belt in Venezuela. Also during this time, ANCAP began entering contracts with foreign companies to explore for oil both on and offshore in Uruguay.

As of present, Uruguay still has no production capacity and relies entirely on petroleum imports. ANCAP has conducted exploratory activities on its own since 2010 when the president allowed for exploration on "Pepe Nunez" onshore. The company also appears to be in charge of offering bids and awarding contracts for exploration blocks on and offshore, and has the right to purchase any or all of the oil produced (Uruguay's offshore basins draw BG, BP, Total, Tullow 2012). As of 2014, "nine offshore and three onshore exploration and production contracts were in place" (USGS 2014).

NOC Presence
Coded 1 from 1974 to 2015 after ANCAP was mandated to carry out all phases of oil operations. Coded 0 all other years.
NOC Ownership
Coded 1 from 1974 to 2015; coded 0 all other years.
Production Status
Coded 0 for all years.
Majority Production Status
Coded 0 for all years.
Regulatory Capacity
Coded 1 from 1974 to 2015; coded 0 all other years.
Competing NOC
Coded 0 for all years.

Uzbekistan

Oil production in Uzbekistan has existed for more than 100 years, with the first developments occurring in 1885. However, large-scale commercial operations did not begin until the post-WWII period. After independence from the USSR in 1991, the country was still a net importer of oil and gas, so the government sought to create a state entity to "achieve fuel-energy independence" (Uzbekneftgaz website n.d.). In this way, nationalization was a means to secure production in the hands of the state so as to direct all resources towards domestic consumption.

The 100% state-owned national oil company, Uzbekneftegaz, was established in 1992 out of the shells of the former Soviet oil and gas concerns in Uzbekistan (similar to the nationalization process in Turkmenistan). The establishment of the NOC was ordered by the following decrees, from the company's website (http://www.ung.uz/ru/about/history):

> May 3, 1992. Decree of the President of Uzbekistan Islam Karimov "On the formation of the Uzbek state concern oil and gas industry 'Uzbekneftegaz'".
>
> December 23, 1992. Decree of the President of the Republic of Uzbekistan "On the transformation of the Uzbek state concern oil and gas industry to the National Corporation Oil and Gas Industry 'Uzbekneftegaz'".

Uzbekneftegaz is fully integrated and operates fields mostly independent of IOCs, which were reluctant to operate in the country in the 1990s but were more involved in the 2000s with the signing of joint exploration projects with the NOC in 1998 (Skagen 2000). In 2004/2005, the government partially privatized the NOC as part of a larger scheme to privatize government companies.

The NOC is a majority producer and has authority to oversee the few IOCs and foreign NOCs which engage in E&P in the country. Much like Turkmenistan, the state is heavily in control of the oil and gas sectors, with very little foreign involvement outside of Russian assistance (CNPC of China and Lukoil of Russia are among those that have signed PSAs with Uzbekneftgaz in recent years). As regulator, the NOC can solicit its own tenders for licenses (Barry 2009).

As of 2012, Uzbekistan has "171 discovered oil and natural gas fields, 51 of which produced oil and 17 of which produced gas condensate" (USGS: 2012). The country has significant natural gas reserves, while its aging oil infrastructure has led to a decline in oil production since 2003 (USGS 2011).

NOC Presence
Coded 1 from 1992 (when Uzbekneftgaz was established) until 2015.
NOC Ownership
Coded 1 from 1992 to 2004; coded 0 from 2005 to 2015 after partial privatization.
Production Status
Coded 1 from 1992 to 2015 given that the NOC has had production capacity since its establishment.
Majority Production Status
Coded 1 from 1992 to 2015.
Regulatory Capacity
Coded 1 from 1992 to 2015, given the NOC's role in oversight and regulation of licenses.

Competing NOC
Coded 0 all years.

Venezuela

Though oil was officially discovered at Lake Maracaibo in 1878, the first large commercial discoveries in Venezuela were made in 1914 by the international firm Caribbean Petroleum, which would later be acquired by Shell, at the Mene Grande fields. By the early 1920s, production had expanded quite rapidly with the addition of two big plays in Las Crucas and La Rosa. Manzano and Monaldi (2009) point out that in this early period, the agreement terms between the government and the IOCs were heavily favorable to the latter: royalty rates were as low as 3% and tax rates were similarly close to nothing.

In the 1930s, government officials became frustrated with the IOCs for alleged back payments and passed a set of new hydrocarbon laws to increase taxes and royalties, particularly the 1943 Hydrocarbon Law. However, as production increased through the 1950s, the government's cut increased at a modest rate since the 1943 Hydrocarbon Law had set up what was essentially a regressive tax system on the IOCs. Thus, by 1960 there were pressures to increase the government's revenue stream and so taxes were increased (in 1959, 1964, and 1969) and a new law was established that forced the IOCs to mostly use Venezuelan employees. Further, the oil minister Juan Pablo Perez Alfonzo founded the OPEC cartel along with the Saudi oil minister Abdullah al-Tariki in 1960.

The biggest step toward eventual nationalization was the creation of Corporación Venezolana del Petróleo (CVP), a fully-state-owned national oil company built up from scratch and given the reserves of a few private firms. According to Hults (2011: 8), "the Betancourt administration founded [CVP] to learn about the oil industry and catalyze Venezuelan-run operations…CVP floundered, however, and PDVSA later absorbed CVP upon nationalization (in 1975)." While in 1963 the government had indicated to IOCs that they had to give up 33% of their operations to CVP by 1968, this never occurred due to the company's shortcomings in management and operations. Hults (2011) estimates that throughout its short-lived existence, CVP only mustered 4% of total production by 1975. Thus, the CVP years were really participation years and not full-on nationalization, since CVP would work alongside with the IOCs to gain technical insight through minimally invasive joint-ventures.

This changed in 1970, when pressures to nationalize finally fomented. Hults (2011: 9) attributes this to "oil sector intervention, rising oil prices, and a global tide of resource nationalism." In 1970, Venezuela's Congress passed a law that would have IOC concessions returned to the state after expiration. After years of debate within the legislature, the president formed a commission on nationalization in 1974; among other results, one interesting outcome of the commission's reports was the promise to IOCs that the government would justly compensate them for its expropriations, to the tune of $1 billion dollars over the next few years (Manzano and Monaldi 2009, cited in Hults 2011). This commission thus eased the transition to nationalization and in 1975 the Congress passed a bill dictating that the oil industry would be nationalized.

Thus, in January 1976, the government replaced CVP with Petróleos de Venezuela, S.A., or PDVSA, as a fully state-owned company. PDVSA relied heavily on the private sector, with the government opting to convert the private sector concessionaires into state-run operator subsidiaries (Hults 2011). Still, the company was fully integrated and became the majority producer by way of having taken over all operating firms in the country.

From the start PDVSA also had access to state capital for E&P, but this changed in 1991 with *la apertura petrolera* or the "oil sector opening" when the company could no longer borrow from the state. It then turned to IOCs for financing through three types of contracts: Risk Exploration agreements (REs), Operational Service Agreements (OSAs), and Association Agreements (AAs) (see Hults 2011 for a description of each, especially fn. 39 on page 15). These were all essentially an in-between of joint venture and production-sharing agreements, with more control in the hands of PDVSA in accordance with the regulations set forth by the 1943 Law and the 1975 nationalization bill, so they are coded like PSAs (see USGS 2000). This period also marked the shift from nationalization to participation, as PDVSA needed foreign operators to help extract the complex heavy crude of the Orinoco Belt. In this period, 1991-1999, PDVSA would hold a 53% stake in concessions given to private companies (USGS 2000).

The 1997-1999 period almost saw the privatization of PDVSA with its new president Luis Giusti disaggregating the company into E&P, manufacturing & marketing, and services arms. In 1998, Giusti had opened up exploration to private firms without state-participation for the first time since 1975 (Hults 2011). This was short lived however as newly re-elected president Hugo Chavez drafted an updated Hydrocarbons Law in 2001 rolling back all the *apertura* policies and essentially re-nationalizing the oil sector by eliminating participatory contracts and dictating that all contracts must have PDVSA as the majority owner.

In terms of social and non-commercial activities, PDVSA was for most of its history quite autonomous in this regard. This has only changed recently, with the 2003 transformation of the company into a more socialist "red, *red*" company (*roja, rojita*) after Chavez recovered from a temporary ouster in April 2002 (Hults 2011). Thus, the post-2002 years saw PDVSA managing social *Misiones Boliviarianos*, including food subsidies, healthcare, highways and other provisions of public goods. This continues up to the present day (as of 2015).

In terms of oversight and regulatory powers, pre-Chavez PDVSA (i.e. for the years 1976-2000) was the *de facto* policy-maker for the oil industry. This is despite the existence of an Energy Ministry because the bureaucracy had become weak since the creation of the NOC in 1976 (see Hults 2011: 31-32 for a more complete explanation). This trend has continued through the Chavez and post-Chavez years as well, despite company and institutional reform. Though Chavez decided to reassert government control over PDVSA and strengthen the Ministry of Energy, he also merged the Ministry with PDVSA, making the Minster the same person as the President, effectively leaving regulatory control with the NOC.

The only exception is during the Herrera presidency of 1979-84 when the administration was successful in its ability to override PDVSA and gain authority over regulation and oversight through the Energy Ministry.

NOC Presence
Coded 1 from 1960 to 2015 for the CVP and then PDVSA years.
NOC Ownership
Coded 1 from 1960 to 2015 as well since both CVP and PDVSA were/are fully state-owned.
Production Status
Coded 1 from 1960 to 2015.
Majority Production Status
Coded 1 only for PDVSA years, 1976 to 2015.

Regulatory Capacity
Coded 0 from 1903-1975 and 1979-1984; coded 1 from 1976-1978 and from 1985-2015.
Competing NOC
Coded 0 for all years.

Vietnam

With its centrally planned economy governed by the Vietnamese Communist Party, Vietnam has had firm state control over its natural resources since unifying under a socialist republic in 1976. Prior to the end of the Vietnam Conflict, Shell and Mobil had made discoveries of oil offshore in 1974 off the southeast coast, but did not commence production before exiting the country in the late 1970s. 1977 marked the first year of joint oil exploration in Vietnam between the Soviet and Vietnamese, during which time offshore surveys and drilling were conducted by Soviet engineers. Finally, by the end of 1985, the first offshore commercial well went online at Banh Ho oilfield (USGS).

In 1977, the Vietnamese government founded Petrovietnam as a wholly state-owned NOC under the Vietnam Oil and Gas Department (company website). The NOC was set up as an oversight shell to manage the other firms in the oil sector and starting that same year, the state negotiated with foreign oil companies through Petrovietnam. Interestingly, in 1982, the government set up perhaps the only "joint-NOC" in history: VietSovPetro was established as a joint venture between Vietnam and the Soviet Union to help Petrovietnam with technical assistance in surveying and exploration (Vietnam maintains a 51% share). As a result, both Petrovietnam and VietSovPetro began producing in late 1985. The best way to understand the side-by-side nature of these NOCs is to categorize VietSovPetro as the offshore NOC and PetroVietnam as the onshore NOC given their production territories. PetroVietnam has also expanded into the downstream sector as part-owner of the country's first refinery.

Despite the state's dominant presence in the oil and gas sector, the government has signed several PSAs and is involved in tax-and-royalty concessions with foreign IOCs. Following the December 1987 passage of the Law on Foreign Investment, Petrovietnam began engaging in PSAs with BP, Total, ONGC, and Shell. It is estimated that in the 1987-2005 period, over 44 PSAs were signed for oil and gas projects (USGS). Despite these PSAs, the two NOCs remained majority producers for the entire period of production (1985-2015), with production mainly coming from one field, the Bach Ho (White Tiger) which is operated by VeitSovPetro (see USGS for details). [Though it should be noted that the oil and gas sector is the only minerals sector of Vietnam where foreign firms were allowed to operate.] In 1994, a second major oilfield came online, the Dai Hung (Big Bear) oilfield, a production-sharing venture between Petrovietnam and a number of foreign IOCs and NOCs (notably BHP, Total, and Petronas) with Petrovietnam taking a 15% share.

Petrovietnam continues (as of 2015) to be state-run and impervious to privatization efforts. As the command economy began to unravel with state efforts at reconstruction and partial privatization in the 1991-1996 period – it is estimated that roughly 2,000 state-owned enterprises across all sectors were decentralized and privatized – state ownership in the oil sector remained strong (Reidel and Comer 1997). However, its unfavorable terms and constant renegotiations has led some IOCs to leave the country or never enter into contracts in the first place: Shell withdrew in 1997 and in a development of its biggest field in 1996, the Dai Hung concession, BHP and its partners were disincentivized from operating the field (Horsnell 1997).

NOC Presence

Coded 1 from 1976 to 2015 given the existence of Petrovietnam since the inception of a unified Vietnam in 1976, and 0 otherwise for the North Vietnam period.

NOC Ownership

Coded 1 from 1976 to 2015 as well since the company has always been fully state-owned.

Production Status

Coded 0 from 1954 to 1984. Coded 1 from 1985 (when the first commercial production came online) to 2015.

Majority Production Status

Coded 1 from 1985 to 2015.

Regulatory Capacity

Coded 1 from 1976 to 2015 given the company's role in oversight of the several IOCs and foreign NOCs in the country.

Competing NOC

Coded 0 for all years

Yemen

Despite the country's tumultuous history in the post-independence period (1962-1990), the state in North Yemen (also known as the Yemen Arab Republic) established a national oil company in 1962. The NOC was known as The Fuel Company and at first operated as a joint-stock company between the government and the Cooperative Foundation for Petroleum (privately held). In 1968, the Yemen Bank for Reconstruction and Development took over the portion previously held by the Cooperative Foundation for Petroleum, putting the company entirely in the hands of the government (YPC website, n.d.). In effect, it was a fully state-owned company with operations in Al-Hudiadah, though it did not have production capacity. Meanwhile, in South Yemen, a NOC was established in 1970 under "The Oil Organization." In 1974, the Northern NOC was given the ability to explore for oil and gas, though the company never became a producer throughout its existence. This ability translated into the authority to solicit tenders for E&P, and thus the company existed as a regulator beginning in 1974.

After the unification of the two Yemen republics in 1989/1990, the two NOCs were merged by Resolution of the Cabinet No. 191. The new company was to be known as Yemen Petroleum Company (YPC). It remained a regulator only, with no production capacity and continues as such, as of 2014 (YPC company website). The majority of the country's oil production is handled by foreign oil companies.

In 1996, the government created the Yemen General Oil and Gas Corporation by Decree No. 47. This NOC is mandated to conduct exploration and production activities (through PSAs with other firms as a minority partner) as well as refining and distribution through its subsidiary companies. While the company does have production capacity, it is not a majority producer.

NOC Presence
Coded 1 from 1962 (when the first NOC was established) to 2015.
NOC Ownership
Coded 1 from 1968 to 2015, since each NOC has been fully controlled by the government.
Production Status
Coded 0 from 1962 to 1996. Coded 1 beginning in 1997, the year after the establishment of the Yemen General Oil & Gas corporation (and when it began as a participant in oil contracts), to 2015.
Majority Production Status
Coded 0 for all years given that production is dominated by foreign firms.
Regulatory Capacity
Coded 0 prior to the 1974 shift in policy allowing the NOC the ability to license out concessions for exploration. Coded 1 from 1974 to 2015.
Competing NOC
Coded 0 for all years since the NOCs (since 1996) have held separate functions.