

When do petrostates diversify their exports? Urgency, interests, and policy design in Egypt, Kazakhstan, and Malaysia

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Abstract

Motivation: The need to diversify their economies is an enduring challenge for fossil fuel-dependent countries, one which will become ever more important as the world seeks to decarbonize. But the conditions under which major oil-producing countries (petrostates) seek to diversify their exports—and those under which their attempts succeed—are poorly understood.

Purpose: This article tests competing explanations for the successes and failures of petrostates' export diversification.

Methods and approach: We employ a comparative case study approach using qualitative evidence from two comparatively successful diversification cases—Egypt and Malaysia—and one less successful case—Kazakhstan—selected using a Theil index of export concentration.

Findings: The evidence indicates that Egypt and Malaysia's more successful outcomes stemmed more from necessity and policy design than from differences in domestic institutions and interests. All three countries were motivated to diversify by price volatility and declining revenues at various points from the 1980s to the 2000s and beyond, but reserve depletion was a greater threat in Egypt and Malaysia. As such, they adopted a more balanced approach to diversification, one that combined liberalization with state intervention.

Policy implications: These cases suggest that petrostates may be willing and able to diversify as the global shift toward renewables raises the prospect of unburnable oil reserves. Petrostates can diversify efficiently by using a basket of policies that includes a mix of economic liberalization and government intervention to create investment and incentives in non-oil tradeable sectors and nurture infant industries. Opposition to reforms in petrostates can be addressed by selectively compensating vested interests.

KEYWORDS

diversification, Egypt, energy transition, Kazakhstan, Malaysia, oil, petrostates

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1 | INTRODUCTION

The need to diversify their economies is an enduring challenge for countries dependent on fossil fuel exports and will become even more important as the world seeks to decarbonize in the coming years. There is widespread agreement among scholars that diversification is important to hedge against the volatility of commodity prices and mitigate the “resource curse.” Moreover, there is evidence that excessive export concentration in any sector hampers growth (Francis et al., 2016; Hausmann et al., 2007; Hesse, 2008; Joya, 2015; Lederman & Maloney, 2007). The motivation of fossil fuel producers to diversify is likely to become more relevant over the course of this century, as efforts to mitigate climate change intensify and renewable sources of energy become more widely used. This article, then, explores the conditions under which major oil producers (petrostates) diversify their economies.

The sources of economic concentration stem in part from the principle of comparative advantage, which suggests that economies will naturally specialize. But export concentration may be especially potent in the case of petrostates due to the crowding-out effect of oil wealth (the so-called “Dutch disease”). Moreover, governments are likely to face pressure from vested interests in industries linked to oil to refrain from implementing policies that might threaten oil’s place in the economy (Corden & Neary, 1982; Ross, 2012).

However, there is comparatively little work on the actual record of petrostate diversification. A small quantitative literature explores the correlates of diversification (Ahmadov, 2014; Hendrix, 2019; Lashitew et al., 2021; Matallah, 2022; Ross, 2019), but is largely descriptive, with variation in export concentration not being linked to specify policy initiatives or actual intentions to diversify. Moreover, these studies face the problem of endogeneity, as indicators used to predict diversification success can be downstream or upstream of diversification attempts. Olander (2019), for example, finds that diversification improves governance. Furthermore, while there is some qualitative work comparing diversification plans, especially among oil producers from the Persian Gulf, these studies are generally descriptive and inductive; they do not test competing explanations by comparing cases of failure and success (Cherif et al., 2016; Elbadawi, 2009; Gelb, 2010; Hvidt, 2013).

This article assesses the causes of successful diversification in three cases: Egypt, Kazakhstan and Malaysia. We select these cases for their variation on the dependent variable, with Egypt and Malaysia diversifying more, and their similarity across a variety of confounders. Through these cases, we compare the explanatory value of competing explanations suggested by different bodies of scholarship, emphasizing the role of political institutions and interests, external constraints, and policy design. The following section develops these explanations in more detail.

Moreover, we focus on export diversification for three reasons. First, doing so is common in literature on diversification (Cherif & Hasanov, 2014; Corden & Neary, 1982; Gelb, 2010; Lashitew et al., 2021; Ross, 2019). Second, looking at export diversification rather than overall output diversification allows us to capture the degree to which other sectors are internationally competitive, a crucial indicator of the economy’s overall health (Cherif et al., 2016). Finally, the growth and size of non-tradeable sectors that serve the domestic market may be endogenous to resource wealth—the service sector may grow to support the resource sector—whereas the tradeable sector is more likely to be crowded out.

This article contributes to the literature on diversification by exploring the conditions under which petrostate attempts to diversify succeed. We attempt to bridge the gap between and improve upon the two empirical strands of literature. Compared to the quantitative literature, we identify when governments try to diversify, instead of measuring such attempts only indirectly using observed levels of diversification without linking them to actual government policies. Compared to the qualitative literature, we offer a more rigorous test using a systematic sample of cases where diversification succeeded or failed.

2 | COMPETING EXPLANATIONS FOR DIVERSIFICATION

Arguments about Dutch disease suggest that export concentration and lack of diversification are inherent to petrostates. According to these arguments, oil's enormous profitability siphons workers and investment away from other sectors while also causing the exchange rate to rise. As a result, the oil industry tends to grow more quickly than the rest of the economy, while other tradeable sectors wither due to higher costs and comparatively scarce capital (Corden & Neary, 1982; Ross, 2012).

The concept of Dutch disease has two shortcomings in explaining the success and failure of diversification. First, it has difficulty explaining the variation in diversification across petrostates and over time, except by reference to the level of their oil wealth. Second, it ignores the capacity for governments to adapt to economic distortions (or exacerbate them) through policy (Chang & Lebdoui, 2020; Karl, 1997; Mazaheri, 2016). Sachs (2007, p. 184) argues that the Dutch disease "is vastly overblown if the oil proceeds are being properly invested as part of a national development strategy," while Lowi (2009, p. 31) similarly claims that "its effects can be minimized, if not avoided."

Then, this article tests competing explanations for when and why diversification occurs. Apart from the Dutch disease, the dominant explanation for the difficulty emphasizes the role of political institutions and vested interests in preventing effective policy implementation. Scholars of the resource curse have argued that oil wealth contributes to poor institutional quality by allowing governments to create a rentier state that relies upon distributing oil rents to remain in power rather than investing in competent, independent state institutions (Besley & Persson, 2010; Karl, 1997; Mahdavy, 1970; Smith, 2004). This facilitates corruption, with policy-makers distributing rents and privileges in exchange for political support. In turn, this ultimately stifles diversification, with governments carving out large portions of the economy for supporters and shielding them from competition (Mazaheri, 2016; Matallah, 2022).

The effects of poor institutional quality and corruption can in turn magnify, and be magnified by, the presence of vested interest groups that oppose reforms needed to diversify. A large body of scholarship emphasizes the problems of collective action and the disproportionate power of concentrated vested interests (Grossman & Helpman, 1994; Olson, 1965). Interest groups that rely on oil are likely to lobby the government for policies that ensure their prestige, profitability, and access to rents (Aklin & Urpelainen, 2018; Hochstetler, 2020). The literature on economic reform suggests that policies that threaten vested interests are likely to be difficult (Baccini & Urpelainen, 2014; Gourevitch, 1986; Haggard, 1985; Olson, 1982). One might, for example, predict opposition to diversification efforts from vested interests in fossil fuels, as they are likely to prefer that governmental support flows to them rather than to rival industries and may fear that the growth of other sectors will force them to compete for capital and labour (Karl, 1997).

But the challenge of diversification can run deeper, as the very policy reforms that conventional wisdom suggests are often necessary for diversification—encouraging trade and investment, expanding the private sector, and promoting competitive firms in tradeable sectors—are likely to face opposition from less competitive incumbent firms that might be sidelined by foreign imports and investment (Chang & Lebdoui, 2020; Cherif et al., 2016; Lebdoui, 2019; Mazarei, 2019). This is, in essence, the classic problem of economic reform; but it may be even more of a challenge in petrostates, as their economic elites typically have close relationships with governments, offering political support in exchange for protection from competition and a share of rents (Karl, 1997; Mazaheri, 2016).

Institutions and Interests Hypothesis: Diversification is more likely when governments are freer from corruption and face weaker opposition from vested interests.

The strength of these explanations is that they point to who is likely to diversify. But their weakness is that unless they can explain why corruption declines or vested interests become comparatively less influential or oppositional, they have difficulty explaining change over time. Thus, we pit them against two other explanations that emphasize temporal change. The first points to the role of economic shocks and constraints. A large body of literature points to negative economic shocks as catalysts for economic reform. During times of economic crisis,

the status quo may become untenable, creating political space for radical policy change. Indeed, there is a substantial body of evidence that shocks can weaken the influence of vested interests and even trigger improvements in institutional quality (Aklin & Urpelainen, 2018; Blyth, 2002; Drazen & Easterly, 2001; Drazen & Grilli, 1993; Garfias, 2018).

In petrostates, which depend on oil rents, the primary source of negative economic shocks are constraints on their oil revenue. In some cases, these may be constraints on the amount of oil that can be exported, for example, due to declining oil reserves. In others, they stem from fluctuations in the price of oil. When prices are high, oil revenues allow petrostates to make ambitious investments. By contrast, when prices are low, whether due to changes in demand or to competition from other oil producers, revenue shortfalls may force petrostates to trim their sails, reducing subsidies, and seeking new sources of revenue (Cherif et al., 2016; Meierding, 2022).

External Constraints Hypothesis: Diversification is more likely when oil revenues are constrained.

The second explanation emphasizes the role of policy design. In a petrostate facing Dutch disease and opposition from vested interests, diversification is unlikely to happen automatically. Rather, the petrostates best able to diversify are likely to be those that implement an effective basket of policies, which existing literature suggests is likely to include a mix of economic liberalization and targeted investment and incentives in non-oil tradeable sectors (Cherif et al., 2016; Chang & Lebdoui, 2020; Lebdoui, 2019; Mazarei, 2019).

Policy Design Hypothesis: Diversification is more likely when petrostates employ a mix of economic liberalization and targeted investment in non-oil export-oriented industries.

The challenge to testing the effects of policy design is that one might expect effective policy design to be downstream of interest in diversification, whereas one might expect ineffective policy design to stem from half-hearted interest. Thus, in our case studies, we try to separate levels of interest in diversification from the tools used to diversify.

3 | EMPIRICAL APPROACH

To test these competing arguments, we employ a comparative case study approach. Specifically, we compare cases of diversification success and failure that are similar in their economic fundamentals and oil wealth. Doing so allows us to account for important potential confounders like the influence of the Dutch disease and the level of economic development.

We code success or failure based on changes in export concentration over time, measured using a Theil index, calculated following the method described by Cadot et al. (2011) and Giri et al. (2019). Exports are measured using country-level bilateral trade flows, at the four-digit standard international trade classification (SITC) (Revision 1) level from the COMTRADE database from 1992–2019. Higher values on the Theil index indicate lower diversification.

We code success cases according to the following criteria. First, we create a universe of possible cases using a sample of countries with at least USD 100 per capita in oil wealth between 1985 and 2005, and excluding Organisation for Economic Co-operation and Development (OECD) member states (Ross, 2012). We use 1985–2005 because this captures both just before and just after export concentration data are available, since oil wealth during the later years for which export concentration is available might be endogenous to diversification efforts. Second, we narrowed the sample to those from the top 25th percentile of cases whose export concentration reduced the most over a given 10-year span. Third, we visually inspect the data to assess whether the reduction in export concentration was truly sustained and long-lasting, rather than the result of temporary fluctuations.

Two candidates emerged as cases of diversification success: Egypt and Malaysia. We further select a case of diversification failure that is most similar to Egypt and/or Malaysia on a variety of confounding variables, including gross domestic product (GDP) and GDP per capita; oil revenue; government effectiveness; and corruption: the case of Kazakhstan (see Table 1 and Figures 1 and 2).

TABLE 1 Summary of selected cases.

Country	Diversification	GDP, 1992–2019, USD billion	GDP per capita, 1992–2019, USD	Oil revenue per capita, 1985–2005, USD	Oil revenue (% of GDP), 1985–2005	Government Effectiveness, 1996–2002 ¹	Control of Corruption, 1996–2002
Egypt	Success	180	2,252	121	6.6	0.5	0.31
Malaysia	Success	224	8,396	297	4.4	0.75	0.52
Kazakhstan	Failure	121	7,365	508	9.5	0.5	0.36

Sources: GDP and population data are from the World Bank (2021). Oil wealth coded by multiplying annual oil production by the average annual oil price (Ross & Mahdavi, 2015), with data obtained from the U.S. Energy Information Administration (2021) and Our World in Data (2021), which are primarily based on the BP Statistical Review of World Energy. Government effectiveness and control of corruption data range from 0–1 and come from the World Bank's World Governance Indicators. Dollar amounts are in constant 2010 US dollars.

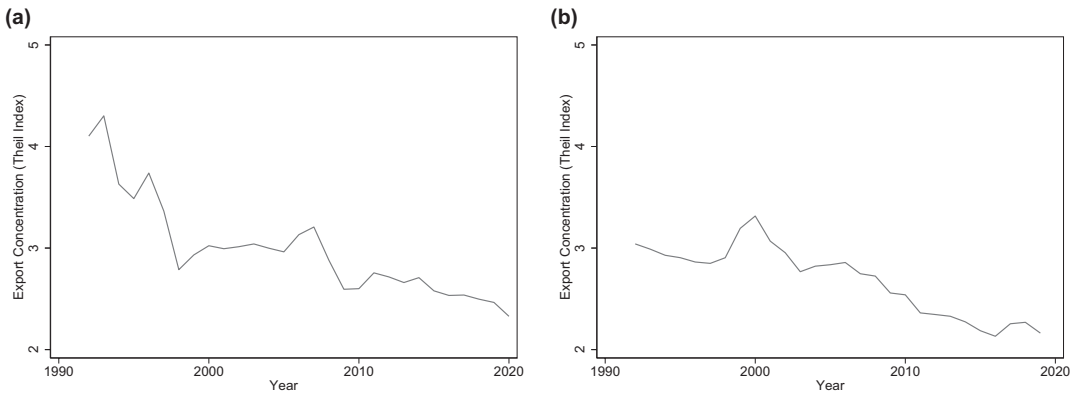


FIGURE 1 Export concentration of success cases of (a) Egypt and (b) Malaysia, 1992–2019.

In the following sections, we trace the record of diversification in these countries dating back to the 1970s for Egypt and Malaysia and to independence in the early 1990s for Kazakhstan. Each section describes the events of one case. In the Conclusion section, we then reflect on which factors shaped the disparate outcomes in each case.

To assess the influence of vested interests, we sought evidence of powerful incumbent groups that opposed substantially altering the status quo. These could include interests in oil and gas, as well as broader business interests that oppose economic reforms and liberalization. If the Interests and Institutions hypothesis is supported, we would expect to see evidence that Egypt and Malaysia had comparatively permissive environments when compared to Kazakhstan, with weaker vested interests that opposed economic reforms and governments less willing to block reforms in exchange for political support. Because of the difficulty of assessing the relative causal weight of political institutions, we focus primarily on the role of vested interests. However, all three cases are quite similar on measures of institutional quality, as indicated in Table 1.

To assess the influence of external constraints, we look for evidence that each country's desire to diversify stemmed from long-term concern about the sustainability of relying on hydrocarbon revenues. If the External Constraints hypothesis is correct, we would expect to see evidence that efforts to diversify in Egypt and Malaysia were driven by urgency in the form of concerns about the country's oil revenues, and that Kazakhstan by contrast faced less urgency.

¹Data on Kazakhstan begin in 1998. We include data on governance quality only during the earliest years for which they are available, as governance quality might be affected by diversification efforts.

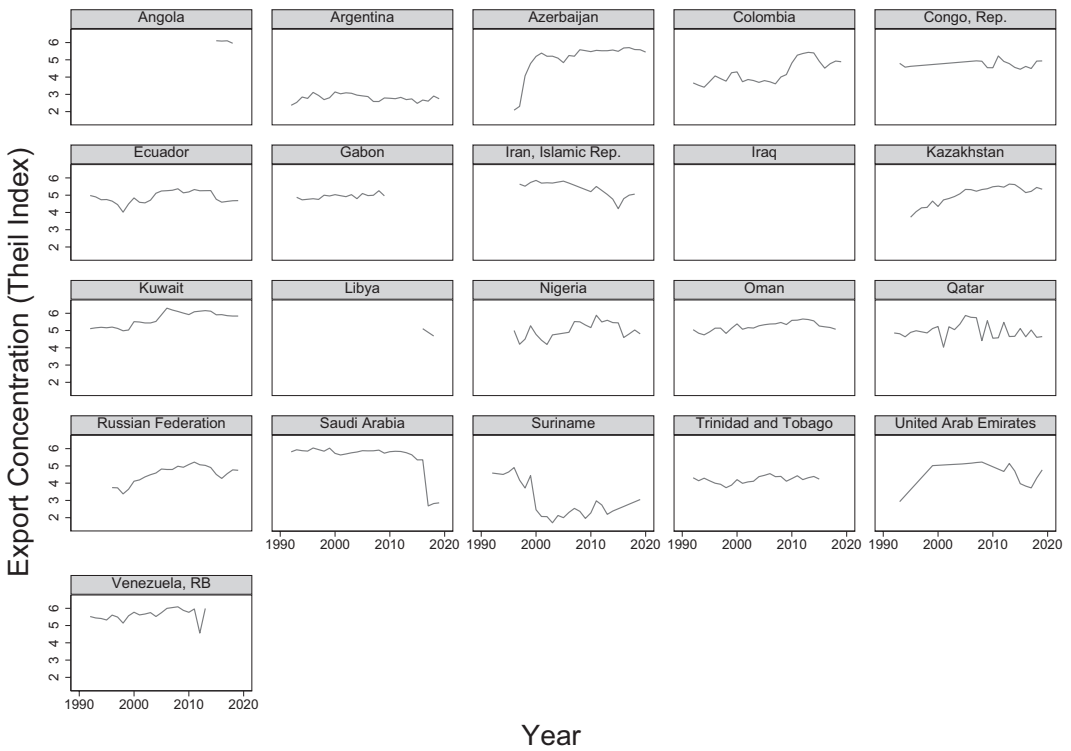


FIGURE 2 Export concentration of non-selected cases, 1992–2019.²

Finally, to assess the role of policy design, we look for evidence as to whether the country relied on a mix of economic liberalization to foster private sector growth and targeted government investment, as opposed to relying solely on state-owned enterprises. If the Policy Design hypothesis is correct, we would expect the primary differences across cases to stem from a less optimal basket of policies in Kazakhstan.

4 | CASE STUDY: EGYPT

4.1 | Motivations to diversify

All of Egypt's post-independence governments emphasized the importance of diversification. President Gamal Abdel Nasser adopted a statist import substitution industrialization model which eventually gave way to a partial liberalization of the economy under President Anwar Sadat in 1974. This, coupled with President Mubarak's continued deregulation of domestic markets, induced a rapid increase in earnings from Egypt's main sources of foreign exchange (oil, tourism, foreign aid, and Suez Canal user fees) (Lofgren, 1993). Annual real economic growth reached 7.5% and industrial productivity increased by 3% per year during the early 1980s. However, the drop in world oil prices in 1985 showed that Egypt's manufacturing sector was still too weak to compensate for the resulting shortfall in foreign exchange earnings. Declining real incomes, rising unemployment, and ballooning foreign debt proved that Egypt's rents alone were insufficient to maintain an acceptable external balance (Loewe, 2013).

²Saudi Arabia experienced a simultaneous decline in export values and an increase in the variety of products exported in the COMTRADE data for 2017.

As external income declined, the regime was quickly losing the main source of funds for food and energy subsidies, social housing, public employment, and other benefits, forcing the Egyptian state into a debt relief deal with the International Monetary Fund and World Bank (Loewe, 2013). As a result, subsidies were reduced alongside the liberalization of trade and interest and foreign exchange rates (Lofgren, 1993). These reforms introduced new economic opportunities, but the government channelled most of them to business elites and bureaucrats loyal to the regime through the preferential sale of government assets. This state–business symbiosis succeeded in co-opting Egypt's business elite as a fourth pillar of state power along with the military, the ruling political party, and the state bureaucracy, all of which colluded to stall the reform process (Sfakianakis, 2004). The gradual approach to liberalization served to appease both the pro-private sector and pro-public sector camps that were beginning to form in the ruling elite coalition surrounding Mubarak (Weipert-Fenner, 2020).

Manufacturing exports fell from 2% to 1% of GDP and foreign direct investment (FDI) stagnated at 0.7% of GDP. Despite the efforts of the Mubarak government, exports remained as concentrated in 2004 as they had been in the early 1960s (Loewe, 2013). State oil reserves were also in decline during the late 1990s and early 2000s. In combination with Egypt's demographic growth and domestic overconsumption of oil due to state subsidies, this threatened the country's status as a net oil exporter (Algarhi, 2005). With the threat of continued economic decline, the need for a more far-reaching set of reforms became politically salient.

4.2 | Efforts to diversify

In 2004, Mubarak pursued a more radical liberalization effort to diversify Egypt's exports and appease the ruling National Democratic Party's (NDP) market-friendly wing. A new cabinet was appointed of which a third were businesspeople under a businessman Prime Minister, Ahmed Nazif. Provincial elites, public sector managers, and some top bureaucrats had capitalized on the sale of 93 state-owned enterprises in the 1990s, using their positions of power and influence to gain control of profitable niches of the economy. Consequently, more members of the Mubarak government and ruling coalition favoured privatization (Loewe, 2013). President Mubarak's youngest son, Gamal Mubarak, emerged as the leader of this growing class of business-minded bureaucrats.

However, the NDP's deputies were not united in supporting free-market reforms. A group of entrepreneurs led by Ahmed Ezz still benefitted from the remnants of market protection schemes and worked with the NDP's left wing and labour unions to block liberal foreign trade initiatives backed by pro-market entrepreneurs. Despite the stuttering liberalization of the 1990s, several economic sectors remained protected against new market entrants (Weipert-Fenner, 2020). Ezz, for one, benefitted greatly from the quasi-monopoly that his company Ezz Steel held in the steel sector. In 2010, despite a reduction in barriers to entry, it still accounted for 65% of the market. The cement and fertilizer sectors were similarly concentrated, with one company controlling over 50% and two companies controlling 90% of these markets, respectively (Loewe, 2013).

On the other hand, privatization benefitted the new class of businessmen-turned-bureaucrats championed by Gamal Mubarak, who leveraged their networks with state officials to enrich themselves with quick-in quick-out investment opportunities (Sfakianakis, 2004). This faction ultimately prevailed in 2002, when Gamal Mubarak was appointed to head the NDP's policy secretariat, which became the party's key decision-making body. A well-timed wave of corruption cases against the NDP old guard of former ministers and high-ranking officials came soon after, paving the way for a shift in economic policy (Zahid, 2010).

However, Gamal still faced political opposition to his agenda. The gradual privatization of state-owned enterprises and the increase in competition of the previous decade had forced the state to devise methods to compensate superfluous workers who had been given public employment as part of Egypt's social contract. Members of the unions, the public administration, and the army viewed the pro-market reforms as a fundamental threat to the

achievements of Nasser's republic. To avoid political and economic instability following the sale of public sector companies, laws passed in the 1990s forbade layoffs or wage decreases of public sector workers after privatization alongside early retirement schemes that offered EGP 40,000 to 50,000 to Egyptians who voluntarily left their jobs (Weipert-Fenner, 2020).

The partial liberalization of the 1990s allowed the military to engage in profitable non-military manufacturing and services. Field Marshal Mohamed Hussein Tantawi and Mubarak worked together to co-opt the senior officer corps by appointing retired generals and other high-ranking officers to key positions in the state bureaucracy and public sector companies (Sayigh, 2019). This created an informal "officer corps" network of military administrators and managers who grew to control large parts of the oil and commercial transportation sectors, as well as the governorships of key Egyptian provinces (Abul-Magd, 2013). Mubarak was able to leverage this "officer corps" in the early 2000s when he made a tacit deal with the army, ensuring their tolerance of the Ahmed Nazif government's liberal reforms as long as the regime left the army's economic privileges and monopolies intact. This sufficiently appeased the military and, with Mubarak acting occasionally as a guardian of the people by vetoing those free-market reforms that offended too many labour and professional unions, liberalization continued (Loewe, 2013).

4.3 | Diversification outcomes

A new cabinet was appointed in 2004, with Gamal Mubarak's friend, the market-friendly Ahmed Nazif, as Prime Minister. Nearly half the 37 ministers belonged to the market-friendly wing of the NDP, while only one third came from the old guard of military bureaucrats (Loewe, 2013). The old guard opponents of reform were weak and disorganized compared to the NDP and, in 2004, the early retirement and layoff compensation schemes were reduced while privatization accelerated under Nazif. After just one year in office, the new government had privatized 87 state-owned enterprises, compared to just 21 companies privatized each year from 1994 to 2004. Average annual earnings from privatizations went from EGP 1.7 billion over 1994 to 2004 to EGP 15.1 billion in 2005. In 2005, a new income-tax law reduced marginal rates, broadened the tax base, introduced administrative improvements in tax collection, and created tax incentives for investors. Tariffs and procedures were simplified, customs duties were lowered, and the regulatory framework for businesses was simplified. The financial sector was also liberalized, with most remaining obstacles to foreign investment removed (Loewe, 2013).

Exports rose considerably, from around USD 8 billion to 29 billion between 2004 and 2010, with marked increases in furniture and wood products, chemical industry, engineering industry, and food processing. Furthermore, from the mid-2000s, fuel exports fell precipitously as a share of Egypt's total exports, from 50% during much of the decade to below 30% by 2010, while the manufacturing share increased (see Figure 3). In particular, this did not reflect a deterioration of Egypt's oil sector; oil production dipped but remained steady from the mid-2000s onward, and the sector attracted a large amount of FDI (Chekir & Diwan, 2015). Furthermore, the change in Egypt's diversification was not purely a mechanical response to changing oil prices, as its export concentration did not simply follow oil prices, but rather decreased over time in a quasi-secular way.

However, the growth of Egypt's non-resource tradeable sectors was hampered by the economic dominance of large, politically connected firms. These firms benefitted from government privileges ranging from non-tariff trade barriers to preferential access to finance (Chekir & Diwan, 2015). Most export gains were concentrated in industries with large, well established companies, while small and medium enterprises (SMEs) struggled (Diwan et al., 2016; Loewe, 2013; Roll, 2010).

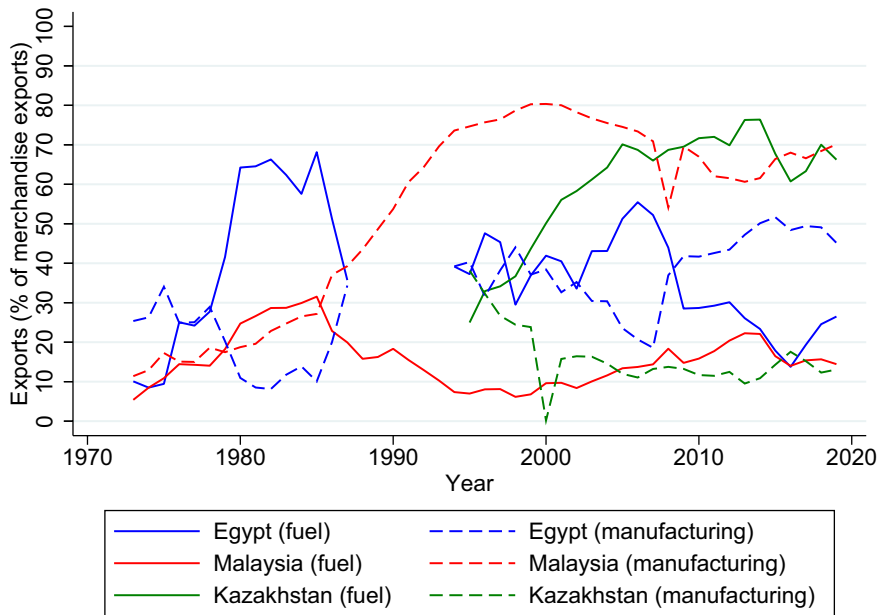


FIGURE 3 Fuel and manufacturing exports of Egypt, Kazakhstan, and Malaysia, 1973–2019. Solid lines indicate fuel exports, and dashed lines indicate manufacturing exports (both as a percentage of merchandise exports). Data are from the World Bank's World Development Indicators (World Bank, 2021).

5 | CASE STUDY: MALAYSIA

5.1 | Motivations to diversify

Malaysia's government initially pursued diversification as a means to economic redistribution. At the time of independence, Malaysia's ethnic Chinese minorities were well established in the country's most economically productive industries of tin mining, palm oil, and rubber while the *bumiputera* (ethnic Malay and other indigenous groups) majority were comparatively marginalized (Noh, 2017). Prime Minister Tun Abdul Razak reckoned with this through the 1970 New Economic Policy (NEP), which aimed to decouple economic power from race and eliminate poverty (Ali, 2016). Since Malaysia's economy was dominated by export commodity industries historically controlled by ethnic minorities, the NEP's redistributive goals accelerated the Malaysian government's focus on economic diversification. The government reinvested revenues from raw material exports in rice agriculture and other rural industries alongside export-based manufacturing to facilitate economic growth among *bumiputeras* (Rasiah & Shari, 2001). The discovery of commercially viable hydrocarbon reserves in the early 1970s offered another avenue to diversify commodities and increased government revenue from raw material exports, which it reinvested to achieve the NEP's redistributive ambitions (Doraisami, 2015).

After the rapid, intervention-led growth of the manufacturing sector in the 1970s, Prime Minister Mahathir Mohamad sought to continue moving Malaysia away from its primary sector-based economy and foster industrialization (Ali, 2016). Commodity price volatility (including oil) and an economic crisis in the mid-1980s further reinforced the desire of the Malaysian government to foster the creation of a diversified economy to weather these price fluctuations (Noh, 2017). This led Malaysia's government to open the economy to more FDI and privatization to replace public investment, reduce government expenditures and shrink foreign debt while increasing *bumiputera* participation in business (Doraisami, 2015; Rasiah & Shari, 2001). Mohamad also sought to modernize Malaysia's economy and gear up the manufacturing value chain by implementing policies aimed at creating a

competitive heavy industry sector characterized by local technology ownership and products destined for export (Yean, 2015).

5.2 | Efforts to diversify

The NEP swiftly moved Malaysia toward diversification. In the early 1970s, the government created state-owned enterprises (SOEs) and trusts to accumulate and redistribute capital to *bumiputeras*, including through partnerships with local firms. Additionally, *bumiputera* equity requirements increased their participation in the economically productive sectors. Malaysia's government made credit readily available to catalyse economic production in industries such as agriculture, mining, construction, and manufacturing (Doraisami, 2015). To create export-based manufacturing jobs, Malaysia's government used revenues from various resource extraction industries to create free-trade zones (FTZs) and attract foreign manufacturing firms with lower costs (Ali, 2016; Chilokwu et al., 2020; Noh, 2017; World Bank, 2013). To move up the value chain, the Malaysian government introduced taxation and incentive policies along with R&D investments to develop manufacturing industries and attract foreign investment (Lebdioui, 2019).

The discovery of the first commercially viable petroleum reserves in the 1970s did not dampen the urgency of diversification. The government gave its national oil company, PETRONAS, exclusive ownership over these reserves. The 1980 National Depletion Policy limited oil extraction, as Malaysia's 1.5 billion barrel proven reserves were less than 20 times the country's annual production over 1976–1980 (BP, 2022).

The Malaysian government's financial troubles in the 1980s divided the ruling United Malays National Organization (UMNO) party into factions with opposing strategies to grapple with the economic downturn. One faction promoted the maintenance of the state-led redistributive policies of the NEP, while the other believed these policies inhibited economic growth (Noh, 2017). This latter faction, fronted by Prime Minister Mohamad, prevailed, and the government subsequently reassessed the NEP.

In turn, the policies of Malaysia's first Industrial Master Plan (IMP) were intended to strengthen industrial links, move down the supply chain, and liberalize the economy. The government loosened the *bumiputera* equity requirements to reduce the regulatory burden on small businesses (Noh, 2017). More FTZs were established during the 1980s, and in 1986, the government exempted foreign firms from *bumiputera* ownership quotas and allowed 100% foreign ownership under the condition that more than half of their produced goods were sold in these FTZs or exported (Ohno, 2014). Over this same period, the government privatized more than a dozen SOEs and made labour market legislation more flexible to attract FDI (Asid, 2010).

In addition, the Malaysian government provided tax incentives to foreign firms in selected sectors through the 1986 Promotion of Investment Act, mobilized capital for investment, and implemented protective policies to shelter infant industries. FDI, the creation of FTZs and investments into R&D encouraged the construction of refining, processing and manufacturing facilities to shift down the supply chain to higher value-added economic activities and protect the nascent heavy manufacturing, electronics and chemical industries (Lebdioui, 2019; Yean, 2015).

Malaysia's government continued to develop its manufacturing sector throughout the 1990s, when it began to focus on growing its service sector (Ali, 2016; Yean, 2015). Expanding on its predecessor, the second IMP recognized the relationship between the industrial sector and R&D, supporting services, human capital, infrastructure, and institutions and outlined a horizontal and vertical strategy up to 2005 based on clustered industrial development to continue Malaysia's economic development (Ohno, 2014).

Malaysia has consistently invested in developing its human capital and acquiring technology to modernize its economy and transition to higher value-added economic activities. Taking full advantage of its natural resource endowment, Malaysia has invested in research and development (R&D) in petroleum, palm oil, and rubber industries, as well as educational programmes to encourage the pursuit of high-skill fields related to these resources. Since the 1970s, PETRONAS has sponsored higher education programmes for Malaysian students and established

educational institutions to produce high-skill workers specializing in management, engineering, and other technical fields (Lebdioui, 2019). Alongside these sector-specific investments in fostering human capital, Malaysia invested heavily in education, with 16% of government spending going toward education in 2011 (Yean, 2015).

5.3 | Diversification outcomes

Malaysia's development strategy—based on policy incentives, responsive state intervention and investment in vertical diversification, and human capital—helped stabilize and grow Malaysia's economy (Noh, 2017; Ali, 2016; Lebdioui, 2019). Targeted tax incentives and FTZs geared toward export-led manufacturing resulted in a nearly four-fold increase in FDI between 1985 and 1990 (Gomez & Jomo, 1997). The manufacturing sector blossomed by exporting electronics, petroleum products, natural gas, textiles, and chemicals, eventually producing 22.6% of GDP and overtaking the agricultural sector (Ali, 2016). Investments in developing human capital and R&D in the petroleum and palm oil industries stimulated Malaysia's transition from crude oil and raw palm oil exports to the export of petrochemicals, plastics, and secondary palm oil products. Malaysia successfully facilitated the growth of its services sector to form the bulk of its GDP, and the country's export base is complex and varied (Lebdioui, 2019; Noh, 2017).

Malaysia's consistent leadership and growth strategy was based on a mutually beneficial patronage system between politicians and the Malaysian business elite. After the NEP expanded the state's involvement in the economy, UMNO party leaders gave preference when it came to awarding government contracts and positions within newly founded public industrial and financial enterprises to politically connected *bumiputeras* to ostensibly redistribute economic opportunities. Incumbent Chinese businesses in extractive industries forged relationships with politicians, hired influential *bumiputera* executives to company boards, created investment co-operatives, and funded UMNO political campaigns to increase their access to government contracts and low-interest loans in the burgeoning manufacturing sectors to protect their economic interests (White, 2004). The privatization boom of the 1980s and 1990s benefitted well-connected businessmen among both *bumiputeras* and non-*bumiputeras*, as many of the privatized companies were sold to individuals and entities with ties to UMNO politicians (Gomez & Jomo, 1997). These patronage networks, along with the UMNO's consistent support from *bumiputeras*, helped Malaysia's government maintain its long-term economic diversification and industrialization strategy.

6 | CASE STUDY: KAZAKHSTAN

6.1 | Motivations to diversify

With the fall of the Soviet Union in 1991, Kazakhstan inherited hyperinflation, high unemployment, and a decrease in skilled labour due to mass emigration (Konkakov & Kubayeva, 2016). Like Russia, Kazakhstan adopted a painful economic strategy of “shock therapy” centred on rapid liberalization and macroeconomic stabilization reforms (Vakulchuk, 2014). However, the disruption of industrial ties between former Soviet republics contributed to a 64.1% contraction in industrial output from 1991 to 1995 (Howie, 2017).

By 1995, Kazakhstan had become noticeably undemocratic as President Nazarbayev dissolved parliament and announced the sale of interests in three major Kazakh oil and gas companies (Ostrowski, 2010). This new government focused on oil sector development, and the sale of state assets from 1995–1997 was thus associated with burgeoning corruption rather than full market-oriented reforms. Direct payments to top leaders were rumoured to be common in this period, as state assets were sold to foreigners for bargain prices (Pomfret, 2005). The government's focus on the hydrocarbon sector created the conditions for Dutch disease as capital and labour shifted from productive sectors of the economy—such as machine building, construction, and light industry—to

extractive hydrocarbon industries. In 1991, Kazakhstan's manufacturing sector accounted for 83% of GDP, falling to 51% by 1995. Over the same period, the mining industry's share of GDP increased from 10% to 25% (Konkakov & Kubayeva, 2016).

Exogenous shocks, including the Asian financial crisis of 1997–1998 and the Russian financial crisis of 1998, led to a precipitous decline in the price of Kazakhstan's main export commodities (oil, metals, ferroalloys) and a resulting fall in export earnings. This unexpected shortfall, in addition to company defaults and problems with wage arrears, precipitated a growing financial crisis (Konkakov & Kubayeva, 2016). In 1997, President Nursultan Nazarbayev publicly acknowledged the need to diversify Kazakhstan's economy with his announcement of the "Kazakhstan 2030" strategy, which included a long-term goal of entering the list of the 50 most developed countries in the world by that year. This strategy was the first of many aimed at developing the institutional foundations of a market economy through the active involvement of the state in redistributive industrial policy and attracting FDI.

The combination of currency devaluation and an increase in confirmed oil reserves and oil prices led to an economic boom at the start of the new millennium (Pomfret, 2005). Between 2000 and 2013, the country's annual per capita GDP growth averaged approximately 8%, while oil and gas production expanded by 135% between 2000 and 2010 (Howie, 2017). The windfall from its remarkable oil discoveries eliminated the state's previously pressing revenue concerns and allowed the government to pursue a variety of new initiatives.

6.2 | Efforts to diversify

The government of Kazakhstan expended considerable effort in the first two decades of the 2000s pursuing state-led growth via state and quasi-state institutions. Advised by international organizations and consultants, the government established a sovereign wealth fund modelled on the Norwegian oil fund to improve the management of petroleum revenues (Vakulchuk, 2014). The National Fund of the Republic of Kazakhstan (NFRK) was meant to protect against oil price volatility, promote economic diversification, and save a portion of oil income for future generations. However, unlike other sovereign wealth funds, the NFRK was run entirely by the state, with limited public accountability. Although NFRK assets were used to successfully shield weaker sectors of the economy from the 2008 financial crisis, the fund was widely viewed as inefficiently run and largely unaccountable during the 2000s (Vakulchuk & Overland, 2018).

The creation of the NFRK took place alongside the emergence of myriad other quasi-state and state-owned entities used to direct diversification efforts after 2000, despite limited oversight and accountability (OECD, 2017). This made these institutions attractive targets for elites to continue their self-enrichment and may explain their popularity and prevalence in development efforts. However, they ultimately hindered diversification. The horizontal rotation of public officials for failed diversification projects was widespread, resulting in the extension of malpractice to other entities (OECD, 2017; Satpayev, 2014; Vakulchuk, 2016).

As part of the government's Innovative Industrial Development Strategy for the years 2003–2015 (SIID), it embraced "cluster-based" development advocates for Silicon Valley-style firm-based innovation centres as the basis for wider economic diversification. The state created pilot clusters in priority sectors of the economy via "technoparks" (Davletgalieva, 2008; Pomfret, 2013). There is evidence that these clusters were successful in promoting business incubation in Kazakhstan for local markets, although they failed entirely to stimulate internationally competitive exports (Radosevic & Myrzakhmet, 2009). The sectoral neutrality of SIID policies hindered meaningful growth in productive sectors, the extractive industries' share of GDP continued to grow during this period, while the manufacturing sector's share of GDP atrophied further (Anderson et al., 2018).

While cluster-based development may have contributed to diversification in other countries, poor R&D capabilities and shortages of high-skilled labour precluded any such benefits in the Kazakhstan programme. The country's innovative infrastructure was undeveloped, and most science and technology capabilities were concentrated

in quasi-state entities such as the State Holding Company, Samruk-Kazyna. There was a fundamental lack of firm-centred innovation at the outset that cluster-based policies and technoparks were simply unable to compensate for (Radosevic & Myrzakmet, 2009). In fact, Kazakhstan experienced negative trends in R&D, with the number of organizations involved in research falling from 421 to 345 between 2008 and 2012 (Kurmanov & Aibosynova, 2015).

From 2010 on, the government of Kazakhstan focused more attention on 'building links' as a means of diversifying its resource-dependent economy (Howie, 2017). The development of upstream and downstream linkages in the country's commodity sectors was prioritized in the next economic plan, the State Programme of Accelerated Industrial-Innovative Development of Kazakhstan (SPAID), launched in 2010. This strategy had a two-fold mission of addressing the impacts of the financial crisis of 2008 while also continuing diversification efforts. As part of the anti-crisis goal, SPAID allocated 4.2 trillion tenge (KZT) from the state budget for injection into the economy over five years. Of this sum, 46.4% was funnelled to infrastructure, which was identified as a priority sector (Konkakov & Kubayeva, 2016). Ranked 88 out of 160 countries in the World Bank's 2014 Logistics Performance Index, Kazakh industries were consistently hampered by poor quality roads, ports, and railways, increasing the final cost of goods by 8%–11% in 2013 (Howie, 2017). However, many of these investments were in oil-specific infrastructure that does not have a positive spillover effect on manufacturing and services suppliers, as most of Kazakhstan's oil is transported via pipelines rather than rail or roads.

Another of the state's key focus areas is local content policy in its oil sector. First introduced unsuccessfully in 2004, a new Law on Subsoil and Subsoil Use was adopted in 2010. This legislation required 50% certified local procurement of services, 1% of any project budget had to be spent on local training programmes, and mandatory joint ventures with KazMunaiGas, the national oil company, in all future exploration and production contracts. Kazakh companies also enjoy preferential treatment under the provisions of the law, with local firms receiving a 20% preference margin in tenders in addition to interest-free loans and other benefits. Although contract termination notices and fines were issued to non-compliant firms soon after the law took effect, the amount of local goods in use by foreign oil companies remains low, with most of these goods limited to fuel and electricity. Local services and supplies were so limited that, in some cases, companies were willing to pay fines to ensure that they received products of consistent quality (Howie, 2017). Similarly, foreign firms did not attract local high-skilled employees due to limited labour availability (Vakulchuk, 2016). As a result, they needed to invite and recruit foreign employees from abroad, often increasing firm operating costs.

Despite all the nominal support offered to Kazakh SMEs in successive subsoil laws, many business owners had difficulty accessing finance due to bureaucratic hurdles and corruption. In the mid-2000s, banks were often reluctant to provide loans for start-ups due to a widespread lack of credit histories among would-be entrepreneurs. The exclusive, interest-free loans offered by the various diversification policies were reportedly reserved for those close to local officials. SME owners also struggled to provide the accounting and tax declarations necessary to meet established requirements for evaluation by credit officers (Ostrowski, 2010). In 2012, only 16% of small firms, 25% of medium firms, and 31% of large firms had loans or lines of credit, with the use of bank credit decreasing between 2009 and 2012 (Howie, 2017).

6.3 | Diversification outcomes

Despite nearly two decades of effort and a long list of national strategies and plans for economic diversification, the performance of Kazakhstan's productive sectors did not improve significantly. While the years immediately following independence brought enormous disruption and precipitous economic decline to the Kazakh economy, the years after the economy had stabilized did bring significant improvements in diversification. In addition to manufacturing exports remaining flat, overall export concentration increased during the 2000s and remained elevated during the 2010s. Similarly, the sophistication of Kazakh exports declined (Esanov, 2009). Even after a

significant drop in world oil prices in 2015, oil constituted more than 60% of total exports. Petroleum, natural gas, metals, chemistry, and mines accounted for nearly 90% of exports in recent years, as the share of Kazakhstan's extractive industries in GDP continues to increase (Azretbergenova & Syzdykova, 2020).

Although mineral fuel exports increased from 2% to 60% between 1995 and 2015, the share of manufactured goods exported with comparative advantage fell from 57% to 17% over the same period. The revealed comparative advantage ratio of manufactured goods also decreased, indicating that manufacturing competitiveness declined in comparison to other countries (Anderson et al., 2018). This evidence points to a growing concentration of mineral fuels in exports alongside a decreasing concentration in manufactured goods. The private sector still has little involvement in manufacturing, which employs only 6%–7% of the total labour force (Anderson et al., 2018). Despite its considerable agricultural potential, Kazakhstan remains a net food importer (Howie, 2017).

7 | DISCUSSION AND CONCLUSIONS

By comparing Egypt, Malaysia, and Kazakhstan, the article explores a variety of competing explanations for export diversification: those emphasizing variation in each country's political *institutions* and *interests*, external *constraints*, and *policy design*.

The findings from these three cases suggest that among the main differences separating comparatively more successful Egypt and Malaysia from Kazakhstan were greater urgency and more effective policy design (See Table 2 and Figure 3). Several common motivations to diversify characterized each case, including negative shocks to hydrocarbon revenues and a desire to hedge against price volatility. However, one common factor in Egypt and Malaysia was their comparatively low oil reserves. Between 1991 and 2010, Kazakhstan had a reserve-to-production ratio nearly three times that of Egypt and Malaysia, and its confirmed reserves increased from five billion barrels during the 1990s, to nine billion in the mid-2000s, to 30 billion by 2010, compared to Egypt and Malaysia, which hovered between 2.5–4 billion barrels (BP, 2022). An important caveat, however, is that Malaysia's desire for diversification began even before it became a major oil producer; indeed, its interest in hydrocarbons stemmed from reflected its broader desire to diversify away from overreliance on a small set of primary commodities. Thus, Malaysia's efforts to avoid overreliance on hydrocarbons reflected its broader desire to diversify.

Moreover, Malaysia offered a model of policy design that contrasted with the approaches of Egypt and, especially, Kazakhstan. Unlike Malaysia, Kazakhstan did not create targeted incentives for the growth of non-resource tradeables, especially the manufacturing sector. Additionally, Kazakhstan relied on a state-centric model that contrasted with the more balanced approach taken by Egypt and, especially, Malaysia, which relied more on private sector growth and liberalization. This was in part connected to the comparatively lower level of urgency that Kazakhstan faced to diversify. In addition to its large oil reserves and high levels of FDI in its oil sector, Kazakhstan has many other raw materials, namely uranium, chromium, aluminium and iron ore, reducing the overall incentive to prioritize diversification (Waikar et al., 2011). The shortcomings of Egypt's approach stemmed from the extent to which liberalization rewarded firms with close ties to the Egyptian government. The "crony capitalism" that characterized Egypt's economy during the 2000s hampered the growth of SMEs and hindered progress toward diversification, albeit to a lesser extent than in Kazakhstan.

The results also offer at best mixed support for the Institutions and Interests Hypothesis. It was not the weakness of vested interests that allowed Malaysia and Egypt to diversify more than Kazakhstan. In both countries, the governments contended with business elites who cultivated close relationships with the regimes and sought both protection and distribution of rents. Opposition from vested interests posed problems in all three cases, but the governments of Egypt and Malaysia overcame them through targeted compensation. In both cases, the governments were able to selectively accommodate some business elites—and, in Egypt's case, the military—by leaving their interests undisturbed and awarding them government contracts. Furthermore, Kazakhstan's comparative failure to diversify cannot be solely attributed to corruption and patronage links between government and

TABLE 2 Case summaries.

Case	Outcomes	Interests and Institutions	External Constraints	Policy Design
Egypt	Modest diversification success. Manufacturing increased and hydrocarbons decreased as a share of Egypt's exports in the 2000s and 2010s.	Strong vested interests, particularly in the military. However, opposition to liberalization reforms was mitigated through targeted compensation. Prediction: Low diversification Support: Moderate	The desire to diversify stemmed from declining hydrocarbon revenues in the 1990s and early 2000s and limited oil reserves. Prediction: High diversification Support: Moderate	Diversification attempts focused on economic liberalization and free-market reforms, with a focus on subsidy reform and privatization. But liberalization is hampered by "crony capitalism." Prediction: Modest diversification Support: High
Malaysia	Diversification success. Fossil fuels became an increasingly smaller share of Malaysia's exports, with the country becoming a major exporter of manufactured goods.	Moderately strong vested interests, particularly among non- <i>bumiputera</i> elites. However, non- <i>bumiputeras</i> were not as well-entrenched in hydrocarbons compared to other export commodities. Diversification was made easier through careful triangulation of competing interests. Prediction: Modest Diversification Support: Moderate	The desire to diversify stemmed from oil price volatility during the 1980s and 1990s, limited oil reserves, and the desire to empower <i>bumiputeras</i> . Prediction: High diversification Support: High	Diversification attempts included a mix of economic liberalization, including an emphasis on FTZs and tax incentives to attract foreign investment, with targeted state support for infant industries, human capital, and R&D. Prediction: High diversification Support: High
Kazakhstan	Diversification failure. Exports are increasingly dominated by fossil fuels and other raw materials over time.	Strong vested interests in the form of large, politically connected SOEs. Prediction: Low diversification Support: High	The desire to diversify stemmed from declining hydrocarbon revenues in the 1990s and early 2000s, but weakened with increasing confirmed reserves and rising oil prices in the late 2000s. Prediction: Low diversification Support: High	Diversification efforts flowed largely through large SOEs and did not include efforts to specifically target non-resource tradeable sectors with a high degree of private sector participation. Prediction: Low diversification Support: High

business interests, as Egypt faced similar challenges and scored even worse on the World Governance Indicators' control of corruption index (Kaufmann & Kraay, 2023).

These findings have important implications for understanding how petrostates are likely to diversify in the coming decades. While political institutions and the influence of vested interests can restrict diversification—as a substantial body of literature has documented—these three cases suggest that they are not necessarily prohibitive, as governments can use targeted compensation to selectively attract concentrated interest groups. This may be more likely when interests are highly concentrated across a few groups—or even within a single group (Blankenship & Urpelainen, 2019). In Egypt, for example, because of the military's dominance, the Mubarak family was able to carve out space for military interests in its policy reforms. The Malaysian government struck a balance between building its relations with the burgeoning *bumiputera* elites while also co-opting a subset of incumbent Chinese elites. When there is enough urgency, governments are often surprisingly capable of overcoming opposition from vested interests.

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DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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