Diversification and growth revisited

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Summary

Many resource-poor economies have grown rapidly, including Japan, Singapore, South Korea, Switzerland, and Taiwan, while many resource-abundant countries have not, including Angola, Iran, Nigeria, Russia, and Venezuela. There are also some resource-rich and more or less highly successful economies, such as Australia, Canada, Chile, Iceland, Mauritius, and Norway. What distinguishes the differences between the more and less successful resource-rich economies?

Double diversification

Natural resources can impede growth directly as well as indirectly through their detrimental effect on institutions (Acemoglu and Robinson 2005; Mehlum et al. 2006) as well as on human, physical, and social capital, equality (Gylfason and Zoega 2003), external debt (Manzano and Rigobón 2007) and foreign aid (Arezki et al. 2024). But economic growth is not all that matters. Macroeconomic success may be better gauged by broader indicators such as the Human Development Index, which reflects education and health as well as income per person (UNDP 2024), than by income alone.

Likewise, the effects of heavy dependence on natural resources may be better gauged by broader measures of the lack of economic diversification than by narrow measures of resource dependence alone. This is because the widely observed inverse cross-country relationship between resource dependence and economic growth may mask the debilitating effect of limited diversification on economic performance. Besides, as a rule, diversification is widely regarded as desirable in and of itself, because it spreads and lessens national risk and thereby reduces national exposure to adverse shocks. The trick is to strike the right balance by specializing enough to exploit comparative advantages as fully as possible and by building at the same time a sufficiently diversified structure of exports and other economic activity to reap the benefits of security and stability.

Diversification can be of two kinds

Economic diversification aims to protect society against dangers that can stem from allowing one or a few sectors, typically revolving around natural resources and the oligarchs in charge of them, to dominate the national economy and society to the detriment of other activities and interests.

Political diversification aims to protect society from excessive dependence on and the empowerment of narrowly based elites at the expense of other citizens. Economic and political diversification can thus be viewed as two sides of the same coin (Gylfason and Wijkman 2017). Empirical evidence suggests that different indicators of economic and political diversification tend to be closely related to one other (Gylfason 2017). We expect to see both types of diversification vary directly with economic and human development.

Broad measures

We begin by describing human development, economic diversification, democracy, the rule of law, and transparency and the relationships among them.

The Human Development Index (HDI) weighs together income per person, life expectancy, and two different measures of education: (i) mean years of schooling for adults aged 25 years and more, a backward-looking measure ranging from 0 to 15 years, and (ii) expected years of schooling for children of school entry age, a forward-looking measure ranging from 0 to 18 years. All three factors – income, health, and education, which is a simple average of the two schooling measures – are indices between 0 and 1 by design. The income factor is logarithmic to account for diminishing marginal utility of income. HDI weighs these factors together in equal proportions by taking the geometric average of the three indices, thus providing a broader measure of economic performance than GNI (UNDP 2024).

The Global Economic Diversification Index (2024) for 2000-2021 (EDI), developed recently at The Mohammed Bin Rashid School of Government (MBRSG) in Dubai, covers 112 countries. EDI is a broad measure, including elements of revenue, output, and trade diversification, ranging from 78.2 for Angola to 153.2 for the United States. In the past, researchers have assessed economic diversification mostly based on Herfindahl-Hirschman, Finger-Kreinin, and Theil indices of export diversification or concentration (UNCTAD 2024), in addition to some more specialized indices of product quality (IMF 2014) and product complexity (Hidalgo and Hausmann 2009), finding that the different measures generally go together and yield broadly similar empirical results (Gylfason 2017).

The Liberal Democracy Index for 2021 (DEM) developed by the V-Dem Institute (2023) at Gothenburg University in Sweden covers 179 countries, including the same 112 countries as EDI, from Albania to Zambia. DEM is a composite index comprising five different aspects of democracy: Electoral, liberal, egalitarian, participatory, and deliberative, ranging from 4 for Belarus to 88 for Sweden. To gauge democracy, researchers have hitherto mostly relied on the polity2 variable from the Polity IV Project (2019), a series whose compilation and publication were temporarily halted in 2018 and will soon be resumed, as well as indices of political rights and civil liberties from Freedom House (2024), again reporting broadly similar results based on those different measures.

The rule of law index for 2021, compiled by the World Justice Project (2024), reflects various aspects of the rule of law: Constraints on government powers, absence of corruption, open government, fundamental rights, order and security, regulatory enforcement, civil justice, and criminal justice. Transparency is measured by the Corruption Perceptions Index for 2021 compiled by Transparency International (2024). More transparency means less corruption.

Empirical patterns

Chart 1, taken from Gylfason and Zoega (2025), shows the directs cross-sectional relationships between EDI and DEM on the horizontal axes and human development (HDI) on the vertical axes in the 112 countries under review. The chart shows a statistically and economically significant relationship in each panel. The lower right-hand corners of Chart 1 are empty. Strong diversification, economic and political, goes along with human development.

We could broaden the scope by adjusting HDI for inequality (Inequality-adjusted HDI) and CO2

Chart 1: Diversification, democracy, and human development

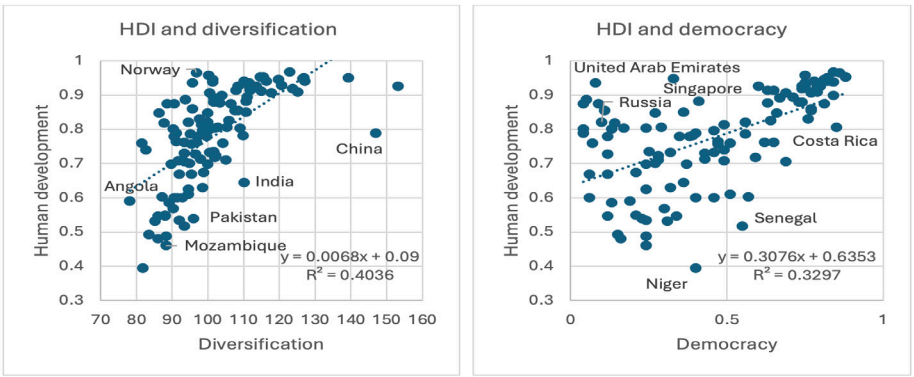
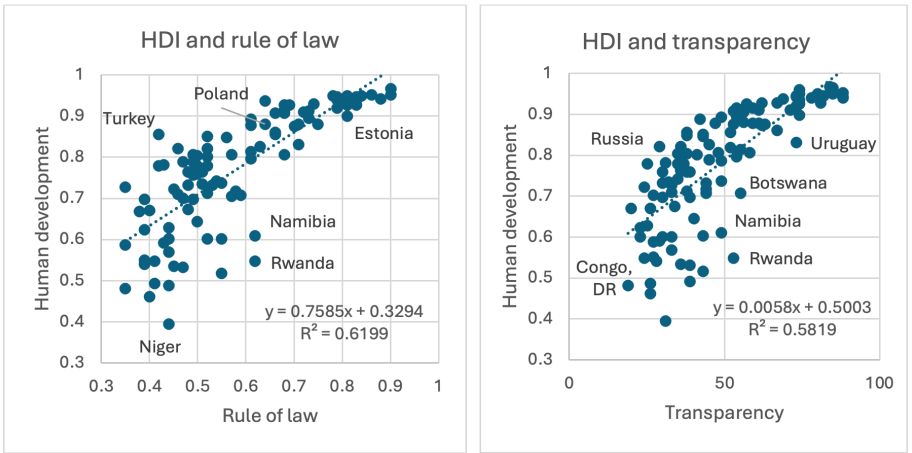


Chart 2: Rule of law, transparency, and human development



emissions (Planetary pressures-adjusted HDI), and more.

Chart 2, also taken from Gylfason and Zoega (2025), suggests positive association between HDI and (i) the rule of law in 100 of our 112 countries and (ii) transparency in all 112 countries. The rule of law and transparency are both good for growth. But then human development may strengthen the rule of law and transparency. Just because x is good for y does not mean that y cannot be good for x. Good things tend to go together as if through a benign entanglement, to borrow language from quantum mechanics. Charts 1 and 2 suggest how human development goes along with key economic, political, and institutional indicators across countries.

Conclusion

The list of failed resource-rich countries is a long one, whether their performance is gauged in terms of economic growth, human development, export diversification, democracy, or the quality of other societal institutions. The list of thriving resource-rich countries is shorter.

This, we presume, is why so many empirical studies suggest an inverse cross-country relationship between natural resource dependence, economic and human outcomes, and institutions, as we have demonstrated here with new data where failures dominate successes. The countries blessed by success excelled mainly because their institutions were well enough developed when their natural resource riches were discovered – think Norway! – with reliable guardrails against rampant rent seeking in place.

Among the 179 countries awarded DEM scores by the V-Dem Institute in Gothenburg, in 2023 Iran, Russia, and Saudi Arabia ranked 152nd, 159th, and 169th. Even so, Saudi Arabia´s per capita GNI in 2023 was equal to that of South Korea and Russia´s per capita GNI exceeded that of Greece. The sometimes-damaging consequences of oil and gas and other natural resources in the hands of theocrats, oligarchs, and royal families can manifest themselves through a lack of economic diversification and democracy, amplified by other institutional imperfections.

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