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Based on a case study of India's downstream hydrocarbon regulator, this article argues that the success or failure of independent regulation in industries supplying basic goods and services is determined by the politico-economic context in which the regulator functions. In a developing country with a large number of poor people without access to basic necessities such as water, energy, or roads, independent economic regulation by itself can deliver little, unless backed by a strong political will.

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1 The Backdrop

In 1997, the Indian government fully opened up the upstream hydrocarbon industry to private investors through a structured process of reforms and awarded a number of exploration licences through several rounds of competitive bids. In 2000, Reliance Industries Limited (RIL), which won a licence in the first round, made a substantial discovery in the Krishna Godavari basin—the KG D6 gas field. The production anticipated from KG D6 held out potential for expansion of gas markets, necessitating a rapid roll-out of pipeline networks to take advantage of it.

In keeping with trends elsewhere in the economy, where industries hitherto reserved for the public sector such as electricity supply and telecommunications were being thrown open to private capital, the government decided to allow private investment in the construction and operation of gas pipelines. RIL had already been awarded a licence to construct a pipeline from KG D6, connecting it to the existing Hazira, Vijaypur, Jagdishpur (HVJ) network. In future, more pipelines would be built by private investors. A national pipeline policy was put in place to ensure that all future pipelines would earmark a third of their capacity for open access by third-party shippers. Eventually, the public sector integrated gas transport and supply monopoly, the Gas Authority of India Limited (GAIL), would be unbundled, and its existing pipeline network opened up for third-party access.

Two liquefied natural gas (LNG) terminals on the country's west coast and two impending transnational gas pipelines envisaged a salient role for natural gas in India's energy basket, necessitating the institution of an independent regulator to provide a level playing field to new entrants to the gas business. The regulator would also incentivise construction of new petroleum product pipelines and open up surplus capacities in existing pipelines to third-party shippers. Thus began the task of drafting a legislation that would establish and empower a new independent regulator for India's downstream hydrocarbon industry. In 2006, Parliament passed the Petroleum and Natural Gas Regulatory Board (PNGRB) Act, and the board was formally set up in July 2007.

The preamble to the PNGRB Act 2006 states that the regulator would

> protect the interests of consumers and entities engaged in specified activities relating to petroleum, petroleum products and natural gas and to ensure uninterrupted and adequate supply of petroleum, petroleum products and natural gas in all parts of the country and to

promote competitive markets and for matters connected therewith or incidental thereto.[1]

Now that PNGRB has been in existence for a decade, this article seeks to assess its performance to determine whether this institution has fulfilled the expectations of stakeholders and the objectives in the PNGRB Act. It goes on to examine the factors shaping its performance, and comes up with the hypothesis that a certain degree of market maturity and infrastructure coverage is a prerequisite for satisfactory regulatory performance. Until then, political, rather than economic, considerations will shape the regulated industry.

In Part 2, we trace the evolution of independent regulation in India's downstream hydrocarbon industry and present a brief overview of the powers and functions assigned to the regulator. In Part 3, we assess the performance of the PNGRB with reference to the objectives in the law and the expectations of stakeholders. In Part 4, we put forth the premise that regulatory failure in India's natural gas sector is primarily because of politico-economic factors operating in a developing country where markets are skewed and/or immature. Specifically, this article argues that, in certain contexts, political considerations override economic objectives. This part outlines manifestations of political control over regulatory remit in the specific context of India's downstream hydrocarbon regulatory body. Part 5 summarises the findings and points to the conclusions.

2 Regulation in Downstream Hydrocarbon Industry

Independent regulation, first introduced in the electricity supply industry, was mooted by the International Monetary Fund (IMF) and World Bank as part of the conditionalities attached to the loans they extended to India in 1991 in the wake of a national foreign exchange crisis. This was in keeping with global trends where both these institutions exerted considerable pressure on governments to undertake structural reforms in their infrastructure industries and set up independent regulatory agencies.[2] The conditionalities extended across the board to all sectors of the economy, but infrastructure and utility industries were specifically targeted for structural reforms. The public sector was to be dethroned from the heights it had occupied for nearly half a century to make way for private investments in infrastructure industries such as electricity, telecommunications, and petroleum. Through selective disinvestment of existing public sector undertakings (PSUs) and through induction of greenfield private projects in these industries, the government hoped to introduce competition, first at the margin, but gradually migrating to fully competitive markets.

India's hydrocarbon industry was dominated by six PSUs—Oil and Natural Gas Corporation (ONGC) and Oil India Limited (OIL) in upstream functions, Indian Oil Corporation (IOC), Bharat Petroleum Corporation Limited (BPCL), and Hindustan Petroleum Corporation Limited (HPCL) in refining and marketing, and GAIL in the integrated business of gas transportation and marketing. There were a few private players in states such as Gujarat and Maharashtra, serving gas consumers within their respective geographical regions. In 1991, the central government began a phased disinvestment programme where minority stakes in many PSUs, including national oil companies (NOCs), were sold to the public and to strategic investors, ushering in private capital at the margin. In 1997, it invited private investors to invest in greenfield projects in each segment of the value stream—exploration and production, refining and marketing, and establishing LNG terminals. Several rounds of international competitive bids were launched and exploration licences were awarded. Two major private refineries—RIL and Essar—were set up on the back of huge incentives offered by the government, and two LNG terminals were also set up, both on the west coast, one by Shell and the other by a consortium of public and private sector companies. It was expected that competitive markets would eventually emerge in the supply of both petroleum products and natural gas.

The transition from state control to market orientation would, however, be conducted in a phased manner and the transition would have to be overseen by an impartial and empowered body. The institution of independent regulation, in vogue in the developed world and in some developing economies, was considered the appropriate mechanism for this. In any case, independent regulation was already a familiar concept in India, regulatory bodies having been established in the electricity and telecom sectors. The new petroleum regulator, focused on the downstream liquid fuel industry, would ensure a level playing field for private entrants at the margin, since the government, the owner of the dominant NOCs, could not be expected to regulate the sector objectively.

The downstream regulator would primarily oversee the transition to competitive markets and provide non-discriminatory access to monopoly infrastructure such as crude and petroleum product pipelines and storage terminals belonging to NOCs, which would have to be shared with private investors setting up refineries and marketing outlets. Without non-discriminatory access to the pipeline and storage infrastructure, private investors would be at a distinct disadvantage. The regulator would protect consumer interests by ensuring an uninterrupted supply of petroleum products in all parts of the country, while ensuring the viability of businesses engaged in such activities. In addition, it would monitor prices and take corrective action where necessary to ensure the smooth functioning of the markets.[3]

Thus, the most important factor that distinguished independent regulation from state regulation in the downstream hydrocarbon industry was the presence of a pipeline/storage terminal infrastructure, which is considered a natural monopoly. Since this monopoly infrastructure was owned by NOCs, independent regulation was seen as necessary to enforce non-discriminatory access to all players in the market, irrespective of ownership. Providing and enforcing open access to infrastructure is essential for introducing markets in these commodities.

Natural gas entered the regulatory remit with the discovery of KG D6 off the east coast of India by RIL. The discovery of an 8 trillion cubic feet gas deposit in the blocks awarded for exploration in 1997 was announced in 2000. This was expected to be monetised in the next four to five years. A new pipeline would have to be built to connect the new find to markets and it would have to be synchronised with the production schedule of the field. Since the gas field was off the east coast of India, it offered the opportunity to extend gas markets to new geographical regions, but the government did not seize it. It left it to RIL to decide where to transport and market the gas. RIL also might have wanted to access existing gas pipeline networks owned and operated by GAIL. A regulator would have to set and enforce the rules of open access to the proposed and existing gas pipelines. It also had to determine the tariffs to be paid for use of common carrier pipelines. Thus, the draft regulatory bill contained targeted provisions for the regulation of the natural gas infrastructure.

With the discovery of KG D6 and the setting up of two LNG terminals on the west coast, it was expected that substantial quantities of gas would start flowing through the gas networks and markets would expand. Besides, India was, and still is, negotiating the construction of two transnational pipelines to bring neighbourhood gas into the country—the Iran–Pakistan–India pipeline to bring South Pars gas, and the TAPI (Turkmenistan–Afghanistan–Pakistan–India) pipeline for gas from Turkmenistan. While transnational pipelines would be outside the purview of the proposed regulatory body, the anticipated gas flows from multiple sources was expected to expand and deepen the domestic market. In the event, the primary task of the proposed PNGRB would be to license both new domestic gas pipelines and the expansion of existing pipelines to extend the rudimentary gas grid that has served only the north and the west of the country till now.

Powers, functions and accountability of board: Licensing powers, considered a crucial regulatory function, are enshrined in Sections 16 to 19 of the PNGRB Act 2006. The PNGRB was expected to put in place a transparent bidding mechanism based on relevant criteria for the award of licences. Once awarded, the regulator would monitor progress and implement the licensing conditions. From now on, construction of new gas pipelines was also open to private investors, and GAIL would have to compete with them to win the licence.

The second major task envisaged for the regulator was the introduction of competitive markets for gas. This was to be done by identifying and declaring existing pipelines as common carriers and determining tariffs for third-party use of common carrier capacity. Multiple shippers could then use common carrier capacity to supply gas to end-consumers. This would require the regulator to unbundle GAIL into separate marketing and transportation businesses so that its pipeline network would be available to other shippers as well. To enable the regulator to do this, Sections 20 to 22 of the PNGRB Act confer extensive powers on it. The PNGRB was also to lay down rules of access and enforce them. It was to set technical and safety standards, and monitor compliance by entities with these standards. This function is crucial to market-making.

Finally, the PNGRB was to decide on disputes between petroleum and natural gas companies as well as on disputes between the government and companies. Consumer-related disputes of a class-action character would also be decided by the PNGRB, though individual consumer disputes were outside its purview. Appeals against regulatory decisions would go before the Appellate Tribunal for Electricity (APTEL) for certain matters, and civil courts for others. The regulator, according to the PNGRB Act, has been given extensive powers to enable it to discharge its duties and enforce its orders.

Statutory regulators govern through regulations, which are essentially subordinate legislations framed under the main enabling legislation. The PNGRB Act stipulates that all regulations framed under it must be in conformity with its provisions. Regulations, once framed and approved by the board, are placed before Parliament for approval. It is Parliament's task to ensure that the regulations conform to the mother legislation. This is the first line of accountability of the regulator. The regulator must also function within the policy framework of the government. If it exceeds its brief, the statute empowers the government to issue policy directives to it, although invoking this provision is deemed an extreme measure. This is the second line of accountability. Regulatory decisions are also appealable, both in the higher judiciary and in APTEL. This is the third line of accountability. The regulator is also expected to function in an objective and transparent manner and is watched over by a vigilant media. Consultation with stakeholders before taking regulatory decisions is a regulatory practice followed everywhere and it was expected that the PNGRB would adhere to this tradition. The last two provide additional, if less formal, lines of accountability.

3 Board Performance during 2007–16

During the 10 years of its existence, the PNGRB has put in place 29 regulations, which were adopted after following the due process of consultation with the affected stakeholders. Of these, four pertain to licensing functions. Once the regulations were in place, the PNGRB held six licensing rounds to award licences to lay/build/operate trunk pipelines and city gas distribution (CGD) networks. It licensed 13 trunk pipelines and 46 CGD networks.[4] Even before establishing the PNGRB, the government had licensed 10 pipelines. Yet, till date, not a single one has been commissioned, although some are in the process of construction.[5] The only pipelines that were commissioned after the PNGRB came were those that had been licensed by the government before the establishment of the regulator.

Similarly, of the 67 CGD networks in geographical areas licensed by the PNGRB, only a few have been commissioned and even these are rudimentary in reach and coverage. Of 248 million households in 25 states (Census 2011), only 3.1 million in 11 states have domestic piped gas connections.[6] Of these, 1.6 million household connections are in Mumbai and in the National Capital Region, and 1.57 million in Gujarat, all of which existed before the regulator. CGD networks licensed by the PNGRB account for less than 1,00,000 household connections.[7]

A decade would be considered long enough for a regulator to initiate market-opening measures to introduce competition in the natural gas supply business. This can happen only if shippers obtain open access to the pipeline system owned and operated exclusively by GAIL. It might be instructive to point out that the unbundling of integrated electricity utilities, equally complex, was accomplished in a record time whereas the unbundling of an integrated gas utility has been a non-starter.[8] The PNGRB has still not drafted any unbundling regulations although it has framed regulations laying down the rules of access to GAIL's pipelines. Even here, the PNGRB has had only limited success in enforcing the rules of access because GAIL, being the single buyer of gas produced from all sources, domestic as well as imported LNG, has frequently denied access to competitors citing technical obstacles. This is evident from the number of complaints filed with the PNGRB by frustrated shippers. Market-making, a key regulatory objective, has been a casualty in the process.

The PNGRB has not been taken seriously by the stakeholders in the public sector who have repeatedly challenged most of its orders in the appellate tribunal or in high courts and in the Supreme Court. These challenges have frequently led to a regulatory impasse because of interim stay orders issued by courts. PSUs such as GAIL, Gujarat State Petronet Limited (GSPL), and Indraprastha Gas Limited, the CGD in Delhi and parts of the National Capital Region, are at the forefront of legal challenges to the regulatory authority, something which PSUs would not do without the tacit approval of the government.[9]

It is evident, therefore, that the regulator has failed to fulfil its mandate of ensuring adequate and continued supply of natural gas in all parts of the country. Regulatory performance, measured in terms of objectives outlined in the PNGRB Act, has failed to live up to expectations. After independent regulation, the growth of the sector has been mired in disputes with the government over the regulator's jurisdiction and remit, as well as the regulator's failure to implement open access to shippers in pipelines that were commissioned after it was set up.[10] Thus, measured in terms of virtually every key regulatory objective, it can be safely concluded that the PNGRB's performance is far from satisfactory.

4 Economic Regulation in a Political Context

Perspectives on the reasons for poor regulatory performance vary. Business newspapers have broadly supported the regulator and have decried government interference in its functioning. Yet, industry critics have been quick to point out many flaws in regulatory design and remit, regulatory accountability, capacity, and even the integrity of the members of the regulatory board. Regulatory remit and competence have been the subject of repeated legal challenges, especially by the PSUs. None of the above perspectives are without merit. There are several lacunae in regulatory design and remit, flaws in regulatory selection processes, and deficiencies in the competence and capacity of the members.

There were also external factors contributing to a poor regulatory record. A major factor was the sudden and unexpected drop in the volume of gas available from domestic fields. The KG D6 gas field, which was expected to ramp up production to at least 80 million metric standard cubic metres a day, struggled to produce even a sixth of that, rendering market calculations meaningless and putting pipeline and CGD expansion in jeopardy. These were factors outside the control of the regulator, but they affected regulatory performance.

While conceding the contribution of all of the above acting individually and/or in concert to frustrate regulatory performance, it is outside the scope of this article to examine each in detail or to assign relative weights to them. However, it is worth pointing out that the PNGRB does not function in a vacuum, but in a certain politico-economic context and some of the blame for poor regulatory performance lay elsewhere. Our inquiry points to a fundamental problem in the regulatory construct specific to developing country contexts where the fruits of development are unevenly distributed.

This article hypothesises that in developing countries with immature markets, absence of political will to cede control of the network infrastructure to independent regulators is inherent in the scheme of things. Regulatory failure in network infrastructure in the developing world is well documented in several case studies, and these have focused, among others, on the lack of political will to let the regulator succeed.[11] This paper argues that a lack of political will is not a mere whimsy of governments, but is inherent in the flawed construct of independent regulation in immature markets. All governments seek to stay in power and any measure—such as ceding control to non-political regulators—that could affect votes in the next election is bound to be a non-starter. The electorate itself seldom holds the regulator responsible for unsatisfactory outcomes, preferring to place the onus on the political dispensation, which it can control through the ballot box. Whether governments actually deploy their power to make basic goods available to the entire population or not, they certainly would like to be seen as attempting to do so.

This article argues that much of the flaws in regulatory design or remit are merely symptoms of a more fundamental and systemic weakness in the construct of economic regulation in a developing country context. We put forth the premise that regulatory failure can be traced to the politico-economic nature of the industry that is being regulated by a non-political regulator functioning outside the Madisonian system of checks and balances in a democracy. Energy, and the infrastructure required to deliver it, satisfies fundamental human needs and has economy-wide applications with serious political implications. The availability, pricing, supply, reach, and coverage (requiring infrastructure) are not just economic issues, but also have immense political import in the context of a developing country where not everyone has access to energy or even the means to afford it, but where every adult has a vote. This places energy (and its infrastructure) in the realm of the political economy rather than in a purely economic sphere. Therefore, energy is vulnerable to manipulation by governments, especially democracies where governments are accountable to their citizens.[12] We surmise that the support of government is instrumental in determining the success or failure of independent regulation. While most other lacunae impeding a regulator can be fixed, without political will, independent regulation can never really succeed.

The political will to make independent regulation work may be there where the regulatory institution has been set up by the government out of conviction or in response to a felt need from the grass roots. However, in most developing countries, including India, the advent of independent regulation was prompted by multilateral funding institutions like the World Bank and IMF, helped not a little by a wave of neo-liberal economic policies, which view all commodities and services purely in economic terms to be organised and supplied by the market. While that may work in a developed country where all citizens have access to a certain minimum of goods and services fundamental to human life, in a developing country where large parts of the citizenry have limited or no access to goods such as energy and water, and/or cannot afford to access them, these acquire a politico-economic character, rendering them vulnerable to intervention by governments.

This is most pronounced in democracies where, to stay in power, governments must at least be seen to subserve the larger public interest through policy interventions to supply these basic goods and services to all citizens. Such compulsions do not bind an independent regulator who is a "constitutional anomaly." However, since it is the government that drafts the regulatory statute in parliamentary democracies, governments could, if they so choose, leave enough loopholes in the legislation to claw back power formally ceded to the regulator.

Typically, governments reserve the right to notify the law when they choose. Several statutes adopted by India's Parliament have never been notified and hence remain only on paper. Worse, most statutes contain the provision that the government can notify different provisions of the law on different dates without assigning any reasons for doing so. There are several other ways in which governments can checkmate the regulator through acts of commission as well as omission. One of the fundamental premises of political economy is that the actions of governments can be understood only as consequences of the political forces that enable governments to acquire and retain power. It follows, therefore, that to retain power, governments will invoke this prerogative, which includes exercising control over politically sensitive businesses.

In the following section, we attempt to substantiate our hypothesis through a case study of the PNGRB. We illustrate how the Indian government, through its many acts of omission and commission, stymied the regulator from the beginning, although to the world at large, it could present a façade of being forward-looking, aligning the industry with global trends, and satisfying the expectations of potential investors from the private sector by putting in place independent regulators to provide a level playing field to them. We conclude that the reluctance of the government to share turf with an independent regulator is essentially because of the politico-economic character of the commodity—petroleum.

Non-notification of PNGRB Act and Section 16: One egregious act of omission by the Government of India was not legally empowering the regulator, even after it was formally constituted. While the PNGRB Act received presidential assent on 31 March 2006, and the board was formally constituted on 25 June 2007 and began functioning from its offices from that date, the act had not been notified by the government. The PNGRB Act was formally notified only on 1 October 2007, three months after the board began functioning and that too after it wrote to the government pointing out this lapse.[13] The government could not have been unaware that non-notification of PNGRB Act rendered the body illegitimate. This leads us to surmise that because of the political nature of the commodities/infrastructure to be regulated by the independent body, the government was reluctant to cede control to it. Despite its power to lay down the policy framework within which the regulator would have to function, an independent regulatory body implied loss of control over certain crucial business decisions in this sector. The reluctance on the part of the government to share the turf with the regulator can be directly traced to the politico-economic character of this sector.

This observation is corroborated by the government's withholding of another key power from the regulator—the power to authorise entities to build and operate pipelines or CGD networks—for three years after it was set up. Section 16 of the PNGRB Act states that no entity shall lay, build, or operate a common carrier or contract carrier pipeline or a CGD network unless authorised by the PNGRB. If the objective of independent regulation is to attract private investors to build new pipelines or CGD networks, it can only be accomplished if the regulator exercises this key power. However, by not notifying this crucial section of the act for more than three years after the board began functioning, the government prevented the regulator from performing this crucial function.

Section 16 was notified only when the government was censured by the Delhi High Court in a ruling on a petition by a consumer organisation.[14] During the period Section 16 was in abeyance, GAIL went ahead with the construction of new pipelines. Whether it was by design to promote GAIL as a national champion or merely to stifle the regulator, the conclusion one can draw is that the government considered this industry too political to be left to the control of an apolitical regulatory body.

Ambiguous regulatory remit: There are other ways in which the government managed to stifle the PNGRB, inadvertently or by design. The act omitted to mention that the existing entities already operating gas pipelines and CGDs would also come under regulatory purview, a serious lacuna that weakened the authority of the regulator. This ambiguity over the PNGRB's authority to regulate existing monopolies led to legal challenges over its jurisdiction.

While it is obvious to everyone that there cannot be two regulatory regimes—one for already existing companies and another for those licensed by the regulator—the government made no effort to rectify the situation. It waited for several months before issuing "deemed authorisation" certificates to those licensed by it prior to the advent of PNGRB. This brought all central government licensed companies already in existence within the ambit of the regulator, but there were many others operating CGD networks in various states without central government authorisation. These are being brought under regulatory jurisdiction in a piecemeal and selective manner, and till date, not all are under the PNGRB's remit, leading to an anomalous situation.

Conflict of interest: Financial autonomy is crucial to regulatory effectiveness. To attract competent professionals, the regulator must be able to attract competent professionals for which it should be prepared to pay market-based compensation. Yet, Indian regulators are saddled with government-sanctioned posts pegged to government emoluments. Consequently, during the first five years of its existence, the PNGRB has had to rely almost entirely on professionals borrowed from the regulated industry to perform its functions, a blatant conflict of interest.

Not only was the staff borrowed from the public sector oil and gas companies that PNGRB would regulate, even their emoluments were paid by their parent companies in gross violation of the tenets of regulatory independence. Even when the regulator is empowered to hire its own staff, it is constrained by government-mandated ceilings on emoluments paid to its staff. Of course, the regulator could always hire consultants who also advised the regulated firms, again raising concerns over conflict of interest. If the government had been serious about the independence of the regulator, it could have eased such constraints and avoided conflict of interest.

Government as adversary: The Indian government's ambivalent attitude to independent regulation is manifest in other instances as well. The government's legal counsel consistently took an anti-regulator stand in court cases filed by regulated entities or other stakeholders. Two egregious instances stand out. When Voice of India, a non-profit organisation, moved Delhi High Court challenging the PNGRB's authority to perform licensing functions citing non-notification of Section 16 of the PNGRB Act, the government counsel sided with the petitioner. To quote the relevant judgment,

> A S Chandhiok, learned ASG appearing for Union of India submitted that in view of non-notification of Section 16, the Board was not empowered to issue authorisations for laying, building, operating or extending any pipeline as a city or local natural gas distribution networks.[15]

The affidavit submitted to the court by the government counsel in August 2009 also affirmed the ASG's statement. The affidavit states,

> In view of non-notification of Section 16, it is most respectfully submitted that the view of the Central Govt. is that the Board is not currently empowered to issue authorisations for laying, building, operating or expanding any pipeline as a common carrier or contract carrier or city or local natural gas distribution network, as clause (d) (B) of Section 2 of the Act defines an authorised entity inter alia is an entity authorised by the board under Section 16 of the Act.

The court based its order on the government's affidavit and submission and decreed,

> In view of non-notification of Section 16 of PNGRB Act, it is held that the Board has no power to grant authorisation to entities which applied to it for Laying, Building, Operating or Expanding City or Local Natural Gas Distribution Networks. We may mention that this finding is in consonance with the Central Government's stand in the counter affidavit filed before this Court.[16]

This leads us to conclude that non-notification of Section 16 by the government was a deliberate act of omission arising from its unwillingness to empower the regulator.

The second case is a recent one in which IGL, the company operating city gas network in the National Capital Region, approached the Delhi High Court questioning the authority of the regulator to fix transportation tariffs for gas supplied through its networks. The court ruled in IGL's favour, dismissing the PNGRB's power to fix transportation tariffs for gas supplied through CGD networks, relying on convoluted semantics to make an artificial distinction between the terms "transportation rate" and "network tariff," although the two are one and the same.

The PNGRB appealed to the Supreme Court through a special leave petition, challenging the lower court's verdict. The apex court confirmed the Delhi High Court ruling based on the submission made by the central government counsel. In other words, the central government once again took the stand that the PNGRB Act did not confer the power to fix network tariff and compression charges for CNG on the regulator, denying it its core regulatory function. Coming from the highest judicial authority of the country, this leaves the PNGRB with no scope for appeal. The perverse stand of the government, which resulted in the court order, is a testament to its attitude to independent regulation in India's natural gas industry.

Government wrests control: But the biggest setback to independent regulation comes from a recent cabinet decision to authorise GAIL to build certain major trunk pipelines and to develop CGNs in major towns along these pipelines.[17] The Cabinet Committee on Economic Affairs even decided to fund 40% of the cost of the Jagdishpur-Haldia and Bokaro–Dhamra gas pipeline (JHBDPL) from the exchequer to take care of the viability gap in the project.[18] The government has gone ahead with the award of licences without reference to the regulator, which under the PNGRB Act is the sole authority to issue such licenses. After years of stymieing the regulator through various measures, the government brazenly decided to exercise the power it had relinquished to the regulator a decade ago.

5 Summary and Conclusions

The PNGRB was set up in 2007 at the behest of multilateral funding agencies through an act of Parliament as part of a large-scale restructuring of the petroleum industry. The law confers comprehensive powers on the board commensurate with the tasks assigned to it. But the regulator was compromised from the start, either deliberately or inadvertently, by acts of omission and commission by stakeholders. Foremost among them has been the Government of India whose attitude to independent regulation is the main determinant of the success or failure of the regulator. This is not to say that the regulator would have delivered satisfactorily had these obstacles not stymied it.

While this article deals with the specific case of independent regulation in India's downstream hydrocarbon industry, it does have wider implications for all the industries that supply commodities/services with politico-economic characteristics. By politico-economic characteristics, we mean commodities/services fundamental to the dignity of life such as water supply, cooking fuels, and drainage. Many of these commodities such as water or natural gas can also meet "wants" as opposed to "needs." But to the extent they are required to meet the "need" factor, these commodities will remain political and governments, especially those that depend on the electorate to remain in power, will have to provide them irrespective of the people's ability to pay for them.

Immature or skewed markets for these goods and services, where only a section of the population can access them, put a democratic government at a huge disadvantage. Markets, by definition, will follow profits and ignore consumers who lack the capacity to pay. Subsidy support from the government can take care of this problem only when the supply infrastructure has a comprehensive reach. Where infrastructure is patchy and skewed, as is the case in India's natural gas industry, apolitical regulation has little chance of delivering results. Until such time the supply extends to the entire population and the markets have reached a degree of maturity, governments will continue to meddle with the regulator. It is not a question of trusting the regulator to do the job satisfactorily, but the ex-ante fear of regulatory failure whose costs will be borne by the government.

A regulator, on the other hand, is not directly accountable to the people for provision of these goods/services. Regulators are accountable only for their acts of commission, not omission. Regulators are expected to devise appropriate market incentives to introduce competition, but failure to do so does not attract penalties or even censure. As we have seen in this example, the PNGRB has signally failed to deliver on the key tasks assigned to it. Yet, it cannot be hauled up for this lapse. At worst, it can be subject to public opprobrium. Weak regulatory accountability is a contributory factor to regulatory failure.

Apart from deliberate sabotage by the government, a regulatory remit often does not include planning for the sector. Without a mandate to proactively plan for the sector to extend its reach to all parts of the country and count on financial support from the government, if necessary, no regulator seeking to regulate an immature market can hope to deliver. The government's recent decision to nominate GAIL to take the infrastructure to hitherto unconnected regions with the offer of a substantial viability gap fund goes to show that the "national champion" model is the only way forward for developing countries with sketchy and skewed infrastructure.

The World Bank and IMF have placed faith in markets to provide all manner of goods and services without making a distinction between those that cater to basic human needs and those that do not, and between immature and mature markets. A market-based approach that independent regulation entails can work only when the "needs" of the entire population are met. Until such time, it is up to democratically elected governments to decide how to expand the market. In that sense, regulation is an instrument with a dominant political rather than economic character. Installing independent regulation prematurely dooms its failure.

NOTES

1 Petroleum and Natural Gas Regulatory Board Act, 2006.

2 Sosay Gul: Independent Regulatory Agencies in Emerging Economies: MPRA, September 2005; http://mpra.ub.uni-muenchen.de/380/ MPRA Paper No 380.

3 Thus, the product market would have only light handed regulation with the regulator intervening only if there was disruption of the smooth functioning of the market.

4 Compiled from various Annual Reports of PNGRB (2007–2015).

5 Twelfth Report of the Parliamentary Standing Committee on Petroleum and Natural Gas 2015–16, pp 52–53.

6 Twelfth Report of the Parliamentary Standing Committee on Petroleum and Natural Gas 2015, pp 52–53.

7 Snapshot of India's Oil and Gas Data 2016 by Petroleum Planning and Analysis Cell, Government of India; http://ppac.org.in/WriteReadData/Reports/201611191042427662597SnapshotofIhdia'sOil&Gasdata_October2016.pdf.

8 Twenty-two Indian states had unbundled their integrated electric utilities as of 2014, according to World Bank's *Governance of Indian State Power Utilities—An On-going Journey*, World Bank, 2014.

9 PSUs require the approval of their line ministry while filing lawsuits against the regulator.

10 Pipelines licensed by the Government of India, but commissioned after the PNGRB was set up are required to conform to the National Pipeline Policy, which mandates 25% common carrier capacity to provide open access to third-party shippers.

11 See Cetin Tamar (2000): "Transition to the Regulatory State in Turkey, Lessons from Energy," *Journal of Economics*, pp 393–402.

12 There is a plethora of literature on the relationship between politics and economics. For a comprehensive survey of the various theories of political economy, see Caporaso and Levine (1992).

13 http://www.prsindia.org/administrator/uploads/general/1265278737~~NOTIFICATION%20NOTE-complete.pdf.

14 http://www.thehindu.com/business/Economy/government-gives-power-to-oil-regulator-to-issue-gas-distribution-licences/article515466.ece.

15 *Delhi High Court Voice of India v Union of India and Others*, 21 Jan 2010, WP(C) 8415/2009 and CM 5295/2009.

16 See note 15.

17 The 2,539 km long Jagdishpur–Haldia and Bokaro–Dhamra Gas Pipeline (JHBDPL) connecting Bihar, Jharkhand, Odisha and West Bengal was awarded by the government to GAIL in 2016.

18 Since this region has never consumed gas, there is uncertainty over finding enough consumers to warrant the investment. Hence, viability gap funding would minimise demand risk.

REFERENCE

Caporaso, James A and David P Levine (1992): *Theories of Political Economy*, Cambridge University Press.