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Investment Pathways for Economic Development

A Capital-Centric Approach to Growth in Emerging Economies

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Governments' economic development problem and the need for a novel approach

Decision makers tasked with driving economic growth and development often benefit from clearly establishing the scope, toolkit and limitations of both the government in general and their role as the party entrusted with the design or execution of its policy.

The state has many ways through which it can affect the economy, including regulations, investments and financing, fiscal policy and spending, government support, and active industrial policy. Some are unavoidable, being central to the operation of the state itself. Others may only be used rarely, or at a smaller scale.

For decades, international finance organizations like IMF and the World Bank advocated against using most of this discretionary toolkit. Instead, **countries were encouraged to focus their efforts on gradually approaching the state of a perfect market economy** characterized by a level playing field for most businesses, free trade, no capital controls, a small state presence, and no enforced structural goals. Countries that could develop their institutional landscape closest to this ideal, legally and practically, were generally presumed to succeed.

However, for many countries this approach, often labeled the "Washington Consensus", was **difficult to implement effectively**:

- In an open playing field, countries with long-established jurisdictions, more liquid capital markets, and already diversified economies win the global competition for investment, demonstrating the so-called "Matthew effect" – those who have something, tend to gain more of it

- Developing countries had rarely succeeded in implementing the "Washington Consensus" to its fullest, often being smaller economies with strongly concentrated economic or political power. In many cases, they had encountered difficulty in balancing the needs and requirements of influential political constituencies or business interests, that have lobbied for preserving government protections and support measures for the domestic economy or specific industries within it

- Building the institutional environment is a multi-decade process, throughout which economic decision-makers and governments change, crises happen, and the development context evolves, making it difficult to assign credit or blame for results. Politically, appointments imply term-bound actions and results, so continuity is often penalized, not rewarded

- A laissez-faire approach tends to perpetuate the existing economic structure, especially for resource-rich countries. This amplifies the commodity cycle and long-term demand change risks

Given the practical limitations of this approach, **most countries err in the opposite direction, excessively intervening in their economies.** They:

- Define which industries to support or mothball
- Create a sprawling state-owned enterprise sector and sovereign wealth funds
- Invest billions in infrastructure, specific industrial projects, and innovation in order to direct a shift in GDP structure (e.g. reducing resource dependency)
- Multiply exceptions and exemptions from standard legal, customs, and fiscal regimes, on industrial, territorial, or even individual bases

Such interventions are usually appealing for political reasons in the near term: they work faster, benefit selected constituencies or supporters, and create "ribbon cutting" moments and an easier form of accountability.

However, **the state is rarely the best allocator of capital.** Its decisions create market distortions, deadweight losses, reduced private financing and investment, and unlimited growth of the government-controlled enterprise sector. At worst, usually when directed at high-risk investment or innovation, the result is an industry that appears modern, exciting, in line with the global trends, and seemingly competitive, but devoid of self-sufficiency, substance, and staying power in the long term.

Another common form of intervention is direct reallocation of resources in order to drive structural change – purposefully over-extracting value from successful, but undesirable industries in order to support the target ones. Pushed too far, this undermines the donor's industry's development, and ultimately the income used to support the recipient. **It is also exceedingly difficult to remove or taper down the use of such measures.** It may take decades to effectively unwind state holdings, remedy market distortions and reduce support.

Practically, most countries utilize a mixed strategy, designating some (usually the most cash-generating) sectors strategic and requiring direct attention and specific protections or regulations, while others are left to compete locally and globally on free market terms. This "two-speed" economy can take the form of large enterprises versus SMBs, "old" industries vs "new", having a set of national security-driven exemptions or many other, depending on development and wider political goals.

This mixed strategy is inherently logical but carries its own pitfalls.

- Policy may become contradictory or self-defeating due to the complex interactions between directly and indirectly controlled economic sectors
- Policy tends to oscillate between the options: the government reduces its role, does not see results quickly enough, resumes intervention, sees its negative consequences, steps away again
- Messaging can be read as misleading or inconsequential: e.g., a proclamation of strong political will towards reducing the role of the state and opening the economy coincides with nationalization and capital controls

If both polar approaches and a mixed strategy could be disadvantageous, **how do countries make the right choice?** BCG analysis demonstrates **a possible alternative approach, a "middle level" of governing the economy:** more practical than institution building and more detached than direct, asset-level intervention. It focuses on a different object of governance: controlling the relative prevalence of factors of production.

The novel approach and its applicability

Every country has a **set of factors of production**, some cumulative like capital, knowledge, "hard" and "soft" infrastructure, and some arising from natural endowments, but still affected by development, such as labor or natural resources. Their relative prevalence refers to the **proportion of projects funded for a specific business-case defining reason across the whole economy.** If currently, most funded projects (and the GDP stemming from their operation) are viable due to a competitive labor cost, then the prevalent factor is labor. The most abundant factor is the cheapest, thus providing a better return.

What then, is the difference between directly working towards structural goals and focusing on production factor prevalence?

The difference lies in the toolkit employed. The structural approach presupposes support, redistribution, and planned value chain management. The "middle level" approach recommends (e.g., where a shift from labor to capital is intended), increasing the abundance of capital by increasing leverage, reducing capital drain, increasing the savings rate, and other such measures – **almost never affecting the fate of an individual asset or specific industry.** Recognizing that **some industries need protection from global competition at a certain stage of maturity,** it's important that **these measures are limited in time and scope.** Once a set maturity state is reached, industry support needs to be gradually withdrawn and state interests divested.

We see the theoretical underpinnings for this approach in the **work of Justin Yifu Lin and a school of thought called New Structural Economics.** which we have supplemented **based on our research into the economic development of several countries in the Central Asia and the Caspian region.**

Very small economies tend not to benefit from the "middle level" approach as, when development is driven by less than a dozen of large projects, it is usually more productive define the policy concretely, on a case-by-case basis. However, **for most countries, this approach is applicable.** It is harder to detail for countries that are at a later stage of transition (from a capital intensive to a knowledge-intensive economy), or aiming to preserve the current relative proportion but at a larger scale. Transition directly from a labor-intensive to knowledge-intensive economy is rare. So the greatest beneficiaries of this approach are middle-income economies undergoing the transition from labor or modest natural resources prevalence towards capital prevalence, and high-income economies seeking to reduce the reliance on natural resources.

Two cases merit a separate mention: countries that choose not to shift their economy away from natural resources, and **the countries that attempt to "leapfrog" capital-driven development** and directly transition from a resource-intensive to a knowledge-intensive economy. The first case is rare given the substantial risks of resource-reliance, including exposure to long-term demand shifts, price volatility, and the non-renewable nature of resources, which may affect fiscal stability and investor confidence. The second case is also relatively rare, although several attempts are currently underway[1]. **We have not focused on the "middle-level" implications for these types of transition.**

1. Transitioning from a resource-intensive to a knowledge-intensive economy requires taking on substantial risk. Developing human capital without an industrial base to utilize it often leads to a talent drain, and choosing the correct path and object for investment is hard when it's untethered to current economic interests. It also requires that countries gaining access to the knowledge frontier, which is often restricted by leading incumbents. Such a transition takes a long time and implies a strong state role, diluting accountability while creating a significant distortion and fiscal burden.

Key elements of the "middle level" approach

Given that relatively few global economies are ripe for the transition from capital to "soft" infrastructure, and this problem has been extensively explored elsewhere, we focus here on the transition in prevalence from either natural resources or labor towards capital.

The capital-centric version of the "middle level" approach aims to **increase the prevalence of capital in an economy.** Achieving success requires:

A. Accumulating sufficient capital in the economy to create a supply overhang and drive the cost of capital down

B. Distributing the capital in a way that maximizes investment in productive fixed assets (as opposed to treasury and speculative assets)

Accumulating capital without a well-functioning distribution system creates speculative markets, asset bubbles and cash stockpiling. Distributing insufficient capital does not enable new projects at the scale required for growth[2].

Countries encounter issues on both sides: there are market failures in distribution, while the capital available for investment is insufficient.

For countries with modest natural endowments, **the accumulation problem is usually more acute.** They don't see enough investment and devote their near-term economic policy towards trying to boost FDI by promising special investment conditions and concessions, and aggressively growing state investment spending. Their banking sectors remain hesitant to finance industrial projects.

Our experience in the Central Asia and Caspian region shows that the core capital accumulation issue encountered is **not necessarily the absence of enthusiasm or conditions for FDI attraction. Rather, there is a lack of a systematic framework for assessing other, non-FDI options,** some of which could offer stronger, albeit politically riskier, levers.

In contrast, economies with large natural resources exports but small private sectors are more likely to encounter capital distribution issues, even when accumulation is sufficient. State enterprises may hoard resources, directing them at reducing operational risk (often benefitting their managers' compensation). Large "shadow" economies may appear, with cash stockpiling or a tendency to create asset bubbles (usually in real estate, but more recently in purely non-productive assets like cryptocurrencies or gold).

In the following chapters we systematically review both sides of the equation – accumulation and distribution of capital, and the economic policy pathways and tools available for each.

2. What is the scale required for growth? One approach, rooted in the history of development of Asian economies transitioning from labor to capital, suggests a 1/3 gross capital formation to GDP metric supports countries aiming for GDP growth of 6–7% or greater. It is difficult to achieve this level consistently, especially in larger economies, and historically, at least in part, it had presupposed artificially restricting consumption. This is because in economies with a large capital stock, 20–25% of gross capital formation goes towards offsetting depreciation, rather than towards the expansion of the capital base. Many developing countries in this 20–25% range are starved for actual growth capital, which causes them to advance projects whose business case relies on a more abundant factor.

Capital accumulation pathways

Levers of capital accumulation, widening of scope beyond FDI

Three levers can drive capital accumulation:

- **Loss prevention/retention:** many countries have substantial capital outflows, through primary income paid out to foreign investors, profit funneled from national companies via transfer pricing, or intensive outbound investment

- **Attraction:** which takes two forms equity and credit with the former consisting mostly of FDI, and the latter of national and private foreign debt

- **Mobilization:** which reallocates “dormant” capital including asset bubbles in non-productive industries, treasure funds outside the financial system, and changes to the national savings rate (be it forced, through reduced consumption, or voluntary through investment incentives)

Of these three levers, attraction through FDI is often the focus of national efforts, but this is rarely the only available driver. The other two accumulation levers and credit growth are often overlooked, as most related policies are not “risk-free” or politically neutral.

There are good reasons to focus on FDI:

- It does not increase leverage in the economy, so does not increase risk

- It does not directly harm existing vested interests: it does not limit their ability to allocate and move capital and is not a part of their relationship with the state

- It is a politically solid and demonstrable metric, usually going awry only when it’s directed towards the purchase of a notable asset or when negative environmental or social impact is expected

However, over-prioritizing FDI comes at a price. Investment returns will eventually be realized, and capital leaves the country and returns to its owner. This creates a primary income drag on the balance of payments current account. With strong competition for international investment, countries without a track record, strong fundamentals, or foreign relationships can struggle to attract FDI at the desired scale without forgoing substantial fiscal income and/or effective sovereignty over invested assets. It is therefore prudent to consider FDI vs alternative levers before prioritizing it by default.

Levers of capital accumulation explained

Loss prevention/retention reduces capital outflows from the economy, increasing supply as a result. This can be achieved through:

- Direct capital controls, including currency conversion limitations, dividend payout limitations, debt servicing and repayment limitations, approval requirements for overseas investments by domestic businesses, and requirements for repatriation or conversion of exporters’ income (higher severity measures carry higher risk)

- Restriction of households’ overseas investment

- Renegotiation of existing investment agreements, production sharing agreements, and other special regimes for foreign investment

- Increase in the state extraction rate (with following re-investment), e.g., through changes in taxation, tariffs, resource access or ecological payments

- Mandated or negotiated re-investment of foreign investors' income into the national economy (including expansions and follow-on projects)

- Nationalization of foreign interest in domestic enterprises, removing the ability to withdraw investment income

- Repatriation of capital moved by domestic investors to foreign jurisdictions via negotiations or legal proceedings

- Repatriation of sovereign funds invested in foreign assets (e.g., reduction of sovereign wealth funds' role in future generations' funding or stabilization funding)

- Divestment of state interests in overseas entities

Capital attraction can be pursued via four main quadrants, based on the type of capital (credit vs equity) and its distribution between private and public sector:

- Increase public sector leverage (e.g., growth of external sovereign debt), with proceeds made available as credit funding for investment (e.g., via an industrial bank, increasing supply to the private banking system via long term deposits, or active use of public-linked risk reduction instruments such as loan guarantees)

- Increase private sector leverage (e.g., assisting the national banking system in drawing more foreign funds, through simplifying foreign bank access or promoting loan syndication)

- Increase public sector-driven foreign equity capital via national level FDI negotiations, co-investment, and joint ventures

- Increase of private sector-driven foreign equity through classic FDI promotion and improving investment conditions and business climate

This lever is often the main policy focus, being relatively tame in terms of economic and political risk profile compared to the other two.

Policymakers often naturally **focus on the equity side,** as it represents commitment and a delayed capital outflow. However, if the goal is to maximize the fixed capital investment, then more investment decisions should be made. This requires projects' rate of return to exceed the weighted cost of capital, which is substantially lower for projects utilizing more credit funding, given the credit's lower risk and tax advantage over equity.

Hence, the credit lever is often underutilized. While most private businesses actively optimize their capital structure, few nations do the same due to more complicated macroeconomic effects and potential risks. Nevertheless, for most economies attracting credit at scale is easier than winning in a global competition for FDI, so the credit lever should be carefully considered in most cases.

Mobilization implies increasing the capital formation in general by reducing final consumption in the economy. This is difficult to achieve, given the high stability of the savings ratio without substantial state intervention, but some countries do take action to achieve this result:

- Redirecting part of state spending from consumption towards investment (or reducing the tax burden allowing for more private sector investment)

- Building a strong pension and social security system, and collecting a larger share of employment income for investment, directed at maintaining an elevated pensions payout or higher liability coverage

- Delaying access to pension funds via raising the age of retirement or introducing additional qualifications within a pension system

- Offering strong incentives for household investments (e.g., state co-funding, term incentives, advantageous tax treatment for specific savings types)

- Mandating household investments (e.g., via obligatory purchase of state credit or via mandatory investment payments (e.g., housing renovation funds, city funds)

- Maintaining a weak labor market, suppressing household consumption in favor of investable corporate profits

- Introducing higher ownership costs for major consumption articles like cars or real estate

Diagnosing accumulation issues

First assess loss prevention/retention. The key diagnostic criterion is a weak Balance of Payments, driven either by large primary income payments in the current account, or a net capital and finance account outflow. A third potential cause might be a "missed inflow", often seen when large exporters keep a profit center outside of the national jurisdiction[3].

After the capital outflow problem is correctly identified and sized, it is important to holistically evaluate the risks and effects of potential measures, given the country's economic structure and relationships. This lever is to be used sparingly and judiciously, considering potential reputational and macroeconomic consequences.

If there is no evidence of a capital loss, then check the savings vs consumption rate on the national accounts. It tends to be a stable indicator that rarely veers much from international benchmarks. If there is a discrepancy, the mobilization lever comes into play.

There is a limit on the extent to which final consumption can be practically suppressed. Reducing income increases the risk of inequality, poverty, and loss of political support, which can also create market instability and reduce consumer demand, with direct implications for private sector growth. Reducing government spending is also a challenge given the entitlements and inflexible discretionary spending (e.g., defense) in budgets of most states.

3. Exporters can do this either through accumulating service charges from the actual asset, or via purchasing at a below-market price. The goal of such an operation is typically gradual divestment, where the core assets are depleted and capital invested in other jurisdictions that are safer or allow for diversification. The way to identify these "missing" inflows is to look for its indirect signs: low declared ROI for expanding natural resources projects, a strong disconnect between reported profit and the commodity price environment, substantial foreign investments by the same business group.

After the limits for the first and third levers are set given the desired risk profile, attention turns to capital attraction. What is the target allocation between equity and credit? As a starting point, consider 50%-65% of financing coming from credit, as this is the conventional debt-to-equity ratio for most businesses, enabling them to minimize capital cost while maintaining a desirable risk level. For sovereign countries, where equity does not apply, a similar 60% of GDP target could be set. This is also considered a conventional upper limit for most economies without very strong capital markets. Once this target is reached, then FDI becomes the most attractive policy option.

One accumulation-specific metric to track the sufficiency of capital that can be used in conjunction with gross capital formation is the capital stock to GDP ratio. It is suitable as a rough estimate for cross-country benchmarking or longitudinal analysis.

Capital distribution pathways

Once a sufficient volume of capital is accumulated relative to other factors of production, **its effective dissemination in the economy becomes the core issue.**

This is usually **not resolved by market mechanisms alone** without explicit governance and intervention:

- Many capital accumulation paths increase capital stock under the direct control of the government (e.g., increased sovereign debt, tax revenue, or national share in JV's) that then is usually channeled into investment
- FDI without supplementary intervention can become a self-sufficient part of the economy with little multiplicative effect, as foreign players prefer foreign subcontractors and no net export benefit is realized
- Also, in many cases FDI takes the form of joint ventures with government enterprises, growing the state's role in the economy
- Growth in both the capital flowing directly through the budget system and state-owned enterprises results in them also competing for credit. This generates a crowding-out effect as banking system assets are drawn towards these state structures and away from the private sector
- When abundant credit capital is combined with macroeconomic instability, it often leads to destabilizing distortions[4]

Enabling an efficient capital distribution system is therefore **paramount for ensuring that the accumulated capital is available for productive assets**, ideally in the private sector.

4. These distortions can include: creation of a speculative market around internal debt and securities issued by government-linked entities; asset bubbles in industries supported by easy credit (e.g., real estate); disproportionate growth in household leverage, resulting in a social crisis risk at the next economic downturn; and reduction in the quality of credit decisions toward a certain dominant class of borrowers (e.g., large enterprises or state-linked enterprises, supported SMEs) with a simultaneous, continuous capital deficit for underserved categories.

Levers of capital distribution

There are several levers for capital distribution, each addressing a specific market failure. It is helpful to group them according to the same logic as was used for capital attraction: sovereign credit; private credit; sovereign equity; and private sector equity.

Sovereign credit – frequently encountered issues and remedy paths

One common issue is the crowding out of private investments by excessive internal sovereign and sovereign-linked debt. The control parameter here is the share of banking system assets attributable to government and government linked lenders, including securities and deposits with the central bank. The target level varies depending on an economy's size and structure, but roughly more than ¼ of second tier banking system assets is generally understood to suggest a cause for concern. Countries might also consider exercising caution regarding the macroeconomic safety parameters in debt/GDP or debt service payments/tax income ratios. They may also look out for avoiding treading close to the indicators set in debt covenants. Finally, countries might benefit from exercising caution around diverting leverage funds towards spending or expanding fiscal deficit; it is usually beneficial to separate these funds from the standard budgeting process.

In the context of these risks, governments can employ several remedies to more effectively distribute sovereign credit:

- Maximize the share of external (as opposed to national currency-denominated) sovereign debt whenever possible within risk bounds (i.e., accounting for covenants, capital flight risks, foreign relations consequences and other factors)

- Limit the holding period of the attracted funds within the immediate reach of the government, e.g., aligning term deposit maturities with debt terms

- Generate fiscal revenue from term deposits in a volume sufficient for debt servicing in order to minimize budget impact

- Prioritize lending in the same currency as incurred debt whenever possible so as not to oversupply the FX market, which drives the national currency above the levels needed to support exports

- Reduce the attractiveness of government and government-linked securities through banking regulation (e.g., adjust their asset risk weighting ratios, remove them from the discount window/central bank REPO operations list)

- Consider capital distribution when setting central bank reserve requirements – increasing banking money multipliers effectively increases the effect of every dollar deposited into the system

- Regulate the rules governing deposits and investments of long-duration money suppliers like pension funds and insurance companies

Private credit – frequently encountered issues and remedy paths

Several issues are commonly encountered that prevent the effective distribution of private credit. Gaps in banking system assets create pockets of underserved potential credit recipients. Governments would also benefit from awareness of the distribution distortions related to term, risk, currency, and yield curve-related gaps[5].

A second issue is the imbalance between investment and consumption credit. As an economy reaches the upper half of the middle income bracket, **more banking system assets become diverted towards either the creation of non-productive assets** (e.g., residential real estate or durable goods) or financing **an elevated level of consumer spending,** while being less available to finance industrial projects. Fundamentally, it is not a grave issue – consumption and spending on consumer assets does contribute to economic growth in the near term and is a fair reflection of growing household income.

However, these two categories often experience an overextension of leverage as risk is passed around by too many parties via securitization and excessive government support. **In these cases, mortgage and consumer credit tend to produce self-reinforcing cycles:** rising real estate prices lure more people into real estate investment beyond their immediate or anticipated needs, while increased access to durable goods leads to inflation supporting an accelerated sales cycle.

A third issue is banks' participation in lucrative speculative markets. When economies experience significant volatility in exchange rates, interest rates, and prices for fixed-income securities, a thriving speculative market often emerges that outclasses corporate banking in possible returns. Banks' activities in these markets limit the capital available for redistribution. For instance, such speculative markets could arise during rapid currency depreciation, when the best investment would be to buy FX cash and wait the crisis out. **The less banking assets are diverted for speculative trading** (besides corporate debt, which is a useful form of credit multiplication), **the better it is for the capital distributive function.**

Several remedies are available to improve the effective distribution of private credit:

- Carefully rebalance banking regulation, with the capital distribution requirement in mind: adjust asset risk weighting for reserve requirements, and regulate risk concentration per borrower or group
- Augment lender of last resort liquidity measures to allow for stronger maturity transformation
- Add more long-maturity liabilities to the banking system by changing the regulations for pension and insurance deposits and investments
- Reduce friction for loan applications via co-underwriting, standardization of credit facilities, and stronger anti-fraud regulations
- Closely monitor for asset bubbles, household leverage levels, and predatory credit practices to reduce relative return of the consumer lending business

5. **Term gap:** this usually means either a deficit of funds available for 3+ years or a mid-term gap for 1-3 year financing. Real estate and other highly collateralized financing is usually best to be accounted for separately whenever the statistics allow. **Risk gap:** a "barbell" risk distribution is when the system has both a high share of high-risk debt (generating double digit interest and substantial fee income) and a high share of low risk loans to government or the very large enterprises in order to comply with capital requirements. The resulting gap in the mid-risk category leaves most mid-to-large size enterprises underfunded as they are viewed as neither "base load" nor "profit" borrowers. **Currency gap:** for some borrowers, borrowing in the national currency incurs a currency risk for both parties. Borrowers may have the need for credit in a reserve currency (e.g., to buy equipment from foreign suppliers) and the income to pay it down in the reserve currency (e.g., as is the case for exporters). Forcing the system to go through the local currency creates a two-sided unnecessary FX risk, which both parties have to account for in the cost of capital. **Diversions from the standard yield curve shape and the maturity transformation gap:** an inverted or "dimpled" curve could mean either an imbalance in the regulation of the banking sector or a problem with setting the macroeconomic expectations, disincentivizing the banking system from matching the maturity of funding available with the funding required for investment projects.

- Allow more direct conduits for foreign capital to operate within the national framework, including deregulating the operations of foreign bank branch offices

- Reform currency control to enable unimpeded FX credit for most borrowers

- Stabilize macroeconomic conditions to reduce incentives for speculative activity; introduce banking regulation, taxation or other measures to limit the return on speculative activities (e.g., a Tobin tax)

- Take a stronger government role if regulation fails to solve the market failure – e.g., establish an industrial bank that works as a loan syndication agent, provider of guarantees, lender (on market terms) to specific underserved categories, and provider of long-duration passives for other banks

Sovereign equity – frequently encountered issues and remedy paths

If successful at capital accumulation, the government often finds itself in control of large sectors of economy, some which may benefit from government control, and others that in principle should be predominantly private. The government may possess a large investment capability and a strong impetus to utilize it, arising from both its industrial policy and its social obligations. Too often, however, this results in:

- Proliferation of new state-owned entities, and their grouping into industrial holdings, clusters, and conglomerates

- Expansion of historical state-owned entity mandates into new industries, asset classes, JVs, and other projects

- Creation of a "development institutes" ecosystem, comprising funds, management companies, special lenders, and think tanks

- Systematic postponement or reversal of previous privatization plans

Governments have political incentive to prefer equity over credit funding, as equity investments tend to fail slowly over an indeterminate timeframe, allowing responsibility to be shifted between many parties involved. Credit decisions, in contrast, are tied to a concrete payment amounts and timing, with clear accountability if they are not met.

As government decisions to invest in equity are made more easily compared to lending, and pressure on invested projects to show returns is weaker, the state becomes a preferred equity source for many projects, crowding out private investment. This tends to grow over time, either directly or via state-owned enterprises. And if it fails to create a sustainable business, it generates a rationale to demand state support, as the government is rarely content with losing jobs that it has created and admitting failure.

If this form of support applies to entities where the government is not the only shareholder, it creates a situation where the successes are shared proportionately, but the risks are covered at taxpayers' expense.

Also, if the government allows itself extensive equity investments, it tends to carve out specific sectors for which private capital is not allowed (e.g. national security related), and is then incentivized to divert resources to them in lieu of other economic opportunities.

Hence, in most cases it is beneficial to increase the government's role in credit supply as opposed to equity supply. Generally, **governments might benefit from exercising considerable caution in providing equity investment and evaluating associated risks:** in areas where private investment is feasible, it creates a crowding-out effect, and where it is not feasible, the state risks permanent loss of invested funds.

However, it is impractical to avoid equity investment altogether. **It is useful to distinguish among four categories when considering investment levels and distribution remedies:**

1. **Extant natural monopoly or special sectors** (e.g., grid, rail track, water, defense). Potentially, government equity investment could be considered very carefully, with minimum being the default option, with the burden of proof for designating a business a natural monopoly set high. Given the legal preferences they carry, natural monopolies are unusually attractive for special interest groups and are a common source of inefficiencies, cost burden to the rest of the economy, and excessive market distortions. It is often advantageous to engage private capital in some way (e.g., via a variety of PPP approaches).

2. **Extant presence in strategic or "cash cow" industries** (e.g., oil and gas, mining, agriculture). The extent of government equity investment largely depends on the national strategy and political control preference overall. In most cases it is beneficial not to over-expand the definition of a "strategic sector" (e.g., expanding oil to drilling, petrochemicals, coal, bulk maritime transport, and power). This category often contains assets that are no longer strategic, but remain in the state's possession. Ideally, the government could evaluate carefully the option for not retaining any ownership of assets that are not strategic for the sector, and would not be considered a strong return-generating investment if viewed as a new entity. Divestment of these legacy assets may be considered to be a policy priority, creating funds that could be deployed more efficiently and with less market distortion.

3. **Strategic new investments not presupposing a clear return** (e.g., innovation, advanced industries, critical infrastructure). This is the most dangerous category in terms of potential for fraud and waste, and deserves maximum scrutiny. It is best kept separate from income-generating assets, as results are often used to mask the failures of strategic projects or fund them over the intended capital allocation. Conversely, the losses from strategic investments may be used to mask issues with conventional investments. State support for this category of investment generally could be offered on a temporary basis and withdrawn when the industry reaches a suitable level of maturity.

4. **Investments oriented at achieving a meaningful return, potentially differentiated by maturity level** (e.g., ventures and mature industries or specific asset classes under separate management). These investments are at maximum risk of competing with private money and might also be expected to be used sparingly. Governments may find it beneficial to replicate the discipline of private equity and venture funds, with a specified investment period, harvesting period, and closing date for any fund being set up. This ensures that seemingly successful investments are not abandoned prematurely. It is important to have a clear investment thesis for each fund created, outlining the target assets and the logic for their selection. If several groups of assets require government investment, they would usually benefit from being financed from separate funds, even if the investment management entity remains the same.

Mandate clarity is one of the strongest predictors of return for sovereign entities. On the equity side its importance grows: the governments generally benefit from minimizing investments made more than for one reason.

Private sector equity – frequently encountered issues and remedies

Private sector equity is the area in which the government may strongly limit its exercise of power or indirect control. The more policy gravitates towards it, the closer the approach to state-led investment criticized above.

There is usually value in an active industrial policy, providing coordination of investment, resolving common problems, and acting as an interface for international companies and foreign governments. It has been effective in Asian economic development, when the nascent financial-industrial groups such as keiretsu or chaebols were granted access to government-facilitated credit in exchange for strong value chain development. However, **governments should carefully weigh the risks of participating in asset-level decisions,** as this is the level at which they can do most harm. The danger with **most countries is becoming overly involved in the investment decisions of their large national enterprises.**

Another frequently encountered issue is the **role of the anti-trust regulation**. As national investors accumulate more assets, integrating vertically and expanding their market share, there comes a point where new entrants cannot feasibly invest in the sector. Strongly administering anti-trust regulations becomes critical for ensuring sufficient openness to competition and new investment.

Government-driven remedies to ensure effective distribution of private equity include:

- Formulating long-term goals of the national industrial policy, and levers that can be used to enforce compliance
- Reviewing existing measures and recommendations for over-extension of state control
- Reviewing market concentration and market dominance criteria in anti-trust regulation, identifying areas ripe for intervention

Including capital-centricity in economic decision-making

It is important to note that of all the levers and actions for accumulating and distributing capital are applied in a complicated context with competing goals and policy domains. **The instruments discussed have political costs, risks, and effects,** beneficial or detrimental to the goals of different industrial regulation domains, regimes, and interests. The proposed capital-centric governance model aims to act as a unifying policy framework, which allows the economic decision-makers to **connect traditionally disparate policy domains in pursuit of a common goal** – ensuring the prevalence of capital vs other factors of production. This approach can also serve as a check: **if a certain policy decision is made, what would its consequences be for the dynamic and structure of capital within the economy?** This is comparable to including a climate effect discussion in major decisions[6] or starting executive meetings with an occupational safety review.

Being a practical approach, it does not require decades to yield results. It could, however, take years, and policy pivots may undermine past decisions. However, it is reasonable to have an **upfront** time or criteria constraint for the more radical decisions, such as capital controls or mandated reinvestment. **If the goals and limits of the policy are clearly and truthfully communicated, it helps to reduce any negative impacts** on long-term investment climate or government credibility. It is important to be consistent across the potentially multiple capital attraction and distribution policies a government has in place. Within the same time period, running two contradictory policies from the investor's perspective greatly complicates any decision-making and resulting investment.

6. A well-known historical precedent for forcibly insisting on maintaining policy consistency in reference to a specific goal or threat is Cato the Elder famously ending all of his speeches in the Roman Senate with a remark on the necessity of a decisive victory over Carthage, a key rival state to Rome at the time.

What can economic decision-makers do to put the capital-centric approach into practice?

In our view there are **7 questions that every economic decision-maker should consider** if they find the capital-centric approach interesting:

1. Is the capital-centric approach right for my country, or do its current size, balance of natural endowments, level of development, and goals imply another direction?

2. Is my country experiencing sufficient gross capital formation to support its economic growth goals?

3. If yes to (2), how can we maintain this tempo over decades as the economy continues to grow quickly?

4. If no to (2), is there sufficient capital in the economy to support more gross capital formation, and how does it compare to other factors of production?

5. Is there meaningful potential to increase the capital stock in the economy within the acceptable bounds of risk? Which levers would be most effective and efficient?

6. If there is sufficient capital, how can we ensure its most effective deployment within the economy and limit the negative effects of state intervention?

7. How can we build consideration of capital accumulation and distribution levers into the normal economic governance and policy development process?

Diagnosing the current situation, intelligently comparing disparate levers, and putting them in context of domain-specific economic decision-making is an ongoing process. Typically, it should be repeated at least once in a major economic reforms cycle, and requires execution and monitoring of results after changes are introduced. **This is a hard task for any single economic decision-maker,** as it touches upon several portfolios. It spans across center of government, central bank, investment vehicles and government holdings, each with its own policy and political priorities.

In our view, **this work is best performed through an oversight or an advisory body, preferably independent,** like an economic advisory council, economic policy board, or independent parliamentary or presidential service. Organizational specifics are dependent on the country's public sector structure and political tradition. But the logic remains the same: **it is helpful to have an independent "mirror" for the economic decision-making,** that can put the constant stream of policy decisions in a unified perspective, perform a "capital centricity check" on policy proposals, and identify gaps in policy formation.

Such a body or role can facilitate dialogue between policymakers that want to make stronger decisions, reformers advocating for long-term institutional progress, and neutral parties that offer feedback on the appropriateness of a given policy stance and identify gaps. In principle, this role could function even without employing a capital-centric approach. However, **without a "north star" metric or goal, it risks devolving into a parallel governance structure,** working with the same context and policy options landscape as the actual government, and thus duplicating effort and complicating effective policy execution and clear accountability for decisions.

We recommend that economic decision-makers consider the questions outlined above and the policy framework underpinning them, as well as the organizational form needed to make such a capital-centric approach effective.

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