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INVESTMENT MODELS

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What is an investment?

Investment can be defined as "A process of **putting money in assets for increasing production or financial gains**". Investment is all about putting money in assets. And, the investment models speak about how to put the money into assets.

The relation between Investment and GDP

GDP, the measure of national income is given by the formula:

GDP = C + I + G + NX

where C is the consumption expenditure, G is government spending, and NX is net exports, given by the difference between the exports and imports, X − M. Thus investment, 'I' is everything that remains of total expenditure after consumption, government spending, and net exports are subtracted (i.e. **I = GDP – C – G – NX**). [I correspond to gross investment.]

Factors affecting Investment :

Investment is a function of **Income** and **Rate of Interest** [I=f(Y,r)]. Higher the income, the more will be the investment; higher the rate of interest the lesser will be the investment.

More Income->More Savings->More Investment->More Income.

No investment->No Growth->Poverty, Malnutrition, Unemployment etc.

Types of Investment Models

- **Public Investment Model:** In this model Government requires revenue for investment that mainly comes through taxes.

- As the world is facing the prospect of an extended period of weak economic growth, by enhancing public-sector investment large pools of savings can be channelized into productivity.
- Properly targeted public investment can do much to boost economic performance, generating aggregate demand quickly, fueling productivity growth by improving human capital, encouraging technological innovation, and spurring private-sector investment by increasing returns.
- Though public investment cannot fix a large demand shortfall overnight, it can accelerate the recovery and establish more sustainable growth patterns.

▪ **Private Investment Model:** For a country to grow and increase its production investment is required. Presently tax revenue of India is not adequate to meet this demand so government requires private investment.

- Private investment can be source from domestic or international market.
- From abroad private investment comes in the form of FDI or FPI.
- Private investment can generate more efficiency by creating more competition, realization of economies of scale and greater flexibility than is available to the public sector.

▪ **Public-Private Partnership Model:** PPP is an arrangement between government and private sector for the provision of public assets and/or public services. Public-private partnerships allow large-scale government projects, such as roads, bridges, or hospitals, to be completed with private funding.

- In this type of partnership, investments are undertaken by the private sector entity, for a specified period of time.
- These partnerships work well when private sector technology and innovation combine with public sector incentives to complete work on time and within budget.

- As PPP involves full retention of responsibility by the government for providing the services, it doesn't amount to privatization.
- There is a well defined allocation of risk between the private sector and the public entity.
- Private entity is chosen on the basis of open competitive bidding and receives performance linked payments.
- PPP route can be alternative in developing countries where governments face various constraints on borrowing money for important projects.
- It can also give required expertise in planning or executing large projects.

Models of Public Private Partnership (PPP)

- Commonly adopted model of PPPs include Build-Operate-Transfer (BOT) ,Build-Own-Operate (BOO), Build-Operate-Lease-Transfer (BOLT), Design-Build-Operate-Transfer (DBFOT), Lease-Develop-Operate (LDO), Operate-Maintain-Transfer (OMT), etc.
- These models are different on level of investment, ownership control, risk sharing, technical collaboration, duration, financing etc.
- **BOT:** It is **conventional PPP model** in which private partner is responsible to design, build, operate (during the contracted period) and transfer back the facility to the public sector.
  - Private sector partner has to bring the finance for the project and take the responsibility to construct and maintain it.
  - Public sector will allow private sector partner to collect revenue from the users. The national highway projects contracted out by NHAI under PPP mode is a major example for the BOT model.
- **BOO:** In this model ownership of the newly built facility will rest with the private party.

  - On mutually agreed terms and conditions public sector partner agrees to 'purchase' the goods and services produced by the project.
- **BOOT:** In this variant of BOT, after the negotiated period of time, project is ransferred to the government or to the private operator.
  - BOOT model is used for the development of highways and ports.
- **BOLT:** In this approach, the government gives a concession to a private entity to build a facility (and possibly design it as well), own the facility, lease the facility to the public sector and then at the end of the lease period transfer the ownership of the facility to the government.
- **DBFO:** In this model, entire responsibility for the design, construction, finance, and operation of the project for the period of concession lies with the private party.
- **LDO:** In this type of investment model either the government or the public sector entity retains ownership of the newly created infrastructure facility and receives payments in terms of a lease agreement with the private promoter.
  - It is mostly followed in the development of airport facilities.

Problems with PPP Projects

- PPP projects have been stuck in issues such as disputes in existing contracts, non-availability of capital and regulatory hurdles related to the acquisition of land.
- Indian government has a **poor record in regulating PPPs in practice**.
- **Metro projects become sites of crony capitalism and a means for accumulating land by private companies.**
- Across the world PPPs are facing problems, performance of PPPs has been very mixed according to study conducted by various research bodies.

- It is also argued that PPP is mere a ‘’**language game” by governments** who find it difficult to push privatization, or when politically it is difficult to contracting out.
- Loans for infrastructure projects are believed to comprise a large share of the non-performing asset portfolio of public sector banks in India.
- In many sectors, **PPP projects** have turned into conduits of **crony capitalism.**
- Many PPP projects in infrastructure sector are run by “**politically connected firms”** which have used political connections to win contracts.
- PPP firms use every opportunity for renegotiating contracts by citing reasons like lower revenue or rise in costs which becomes a norm in India.
- Frequent renegotiations also resulted into drain of larger share of public resources.
- These firms create a moral hazard by their opportunistic behavior.

The government of India Initiatives for Revamping of PPP Models :

Viability Gap Funding (VGF): Means a grant one-time or deferred, provided to support infrastructure projects that are economically justified but fall short of financial viability. The lack of financial viability usually arises from long gestation periods and the inability to increase user charges to commercial levels. Infrastructure projects also involve externalities that are not adequately captured in direct financial returns to the project sponsor. Through the provision of a catalytic grant assistance of the capital costs, several projects may become bankable and help mobilize private investment in infrastructure.

The government of India has notified a scheme for Viability Gap Funding to infrastructure projects that are to be undertaken through Public-Private Partnerships. It will be a Plan Scheme to be administered by the Ministry of Finance with suitable budgetary provisions to be made in the Annual Plans on a year-to-year basis.

The quantum of VGF provided under this scheme is in the form of a capital grant at the stage of project construction. The amount of VGF will be equivalent to the lowest bid for the capital subsidy, but subject to a maximum of 20% of the total project cost. In case the sponsoring Ministry/State Government/ statutory entity proposes to provide any assistance over and above the said VGF, it will be restricted to a further 20% of the total project cost.

Support under this scheme is available only for infrastructure projects where private sector sponsors are selected through a process of competitive bidding. The project agreements must also adhere to best practices that would secure value for public money and safeguard user interests. The lead financial institution for the project is responsible for regular monitoring and periodic evaluation of project compliance with agreed milestones and performance levels, particularly for the purpose of grant disbursement. VGF is disbursed only after the private sector company has subscribed and expended the equity contribution required for the project.

India Infrastructure Finance Company Limited.

IIFCL was set up in 2006 to provide long-term debt for infrastructure projects. Infrastructure projects are typically long gestation projects and require debt of longer maturity. The provision of long-term funds from commercial banks is restricted due to their asset-liability mismatch. IIFCL tries to address the above constraints in long-term debt financing of infrastructure.

IIFCL provides financial assistance to commercially viable projects, which includes projects implemented by a public sector company; a private sector company; or a private sector company selected under a Public Private Partnership (PPP) initiative. Priority is given to those PPP projects awarded to private companies, which are selected through a competitive bidding process.

Only projects pertaining to the following sectors are eligible for financing from IIFCL:

1. Road and bridges, railways, seaports, airports, inland waterways and other transportation projects;
2. Power;

3. Urban transport, water supply, sewage, solid waste management and other physical infrastructure in urban areas;
4. Gas pipelines;
5. Infrastructure projects in Special Economic Zones;
6. International convention centers and other tourism infrastructure projects;
7. Cold storage chains;
8. Warehouses;
9. Fertilizer Manufacturing Industry

IIFCL raises funds from domestic as well as external markets on the strength of government guarantees. The mode of lending is either long-term debt; refinance to banks and financial institutions for loans granted by them to infrastructure companies; takes out finance; subordinate debt and any other mode approved by Government from time to time. The total lending by IIFCL is limited to 20% of the Total Project Cost.

In 2008, a wholly owned subsidiary of IIFCL, IIFCL (UK) Ltd, was established in London with the objective of utilizing the foreign exchange reserves of RBI to fund off-shore capital expenditure of Indian companies implementing infrastructure projects in India.

Infrastructure Debt Funds:

The term Debt Fund is generally understood as an investment pool which invests in debt securities of companies. However, an Infrastructure Debt Fund(IDF) registered in India refers to a company or a Trust constituted for the purpose of investing in the debt securities of infrastructure companies or Public-Private Partnership Projects. Thus, in contrast to the general understanding of the term, IDF does not refer to a Scheme floated by a mutual fund or such other organizations but to the Company or Trust who is investing in debt securities. An IDF can float various schemes for financing infrastructure projects.

Purpose– IDF is a distinctive attempt to address the issue of sourcing long-term debt for infrastructure projects in India. Union Finance Minister in his Budget Speech of 2011-12 had announced setting up of IDFs to accelerate and enhance the flow of long-term debt in infrastructure projects. IDFs are meant to

1. supplement lending for infrastructure projects
2. provide a vehicle for refinancing the existing debt of infrastructure projects presently funded mostly by commercial banks

Structure& Regulation- These Funds can be established by Banks, Financial Institutions, and Non- Banking Financial Companies (NBFCs). IDFs can be set up either as a company or as a trust. A trust-based IDF would normally be a Mutual Fund (MF) that would issue units while a company based IDF would normally be a form of NBFC that would issue bonds. Further, a trust-based IDF (MF) would be regulated by SEBI; and an IDF set up as a company (NBFC) would be regulated by RBI.

IDF –MF can be sponsored (sponsor is akin to a promoter) by any NBFC which includes an Infrastructure Finance Company(IFC). However, IDF-NBFC can be sponsored only by an IFC.

Vijay Kelkar Committee Report on Revisiting and Revitalising PPP Model

- Finance Minister in the Union Budget 2015-16 announced that the PPP mode of infrastructure development has to be revisited and revitalised.
- In pursuance of this announcement, a Committee on Revisiting & Revitalising the PPP model of Infrastructure Development was set-up which was chaired by Dr. Vijay Kelkar.

Key recommendations of the committee:

- Contracts need to focus more on **service delivery instead of fiscal benefits**.
- Better identification and **allocation of risks** between stakeholders

- Prudent utilization of **viability gap funds** where user charges cannot guarantee a robust revenue stream.
- **Improved fiscal reporting** practices and careful monitoring of performance.
- Given the urgency of India's demographic transition, and the experience India has already gathered in managing PPPs, the government must move the PPP model to the next level of maturity and sophistication.
- Cost effectiveness of managing the risk needs to be evaluated.
- An Infrastructure **PPP Adjudication Tribunal ("IPAT")** chaired by a Judicial Member (former Judge SC/Chief Justice HC) with a Technical and/or a Financial member, where benches will be constituted by the Chairperson as per needs of the matter in question.
- Projects that have not achieved a prescribed percentage of progress on the ground should be scrapped. Re-bid them once issues have been resolved or complete them through public funds and if viable, bid out for Operations and Maintenance.
- Sector specific institutional frameworks may be developed to address issues for PPP infrastructure projects.
- **Umbrella guidelines may be developed for stressed projects** that provide an overall framework for development and functioning of the sector specific frameworks.
- **Unsolicited Proposals ("Swiss Challenge")** to be discouraged to avoid information asymmetries and lack of transparency.
- **Amend the Prevention of Corruption Act, 1988** to distinguish between genuine errors in decision-making and acts of corruption.
- Set up an institution for invigorating private investments in infrastructure, providing guidance for a national PPP policy and developments in PPP.
- An institutionalized mechanism like the **National Facilitation Committee (NFC)** to ensure time bound resolution of issues.

- Ensure adoption of principles of good governance by the **Special Purpose Vehicle (SPV)**.
- Discourage government participation in SPVs that implement PPP projects unless strategically essential.
- Ministry of Finance to allow banks and financial institutions to issue Zero Coupon Bonds which will also help to achieve soft landing for user charges in infrastructure sector.
- Encourage use of PPPs in sectors like Railways, Urban, etc. Railways to have an independent tariff regulator.
- Set up an **institute of excellence in PPP** to inter alia guide the sector, provide policy input, timely advice and undertake sustainable capacity building.
- Ensure integrated development of infrastructure with roadmaps for delivery of projects.

Again, depending from where investment comes, there are two other investment models.

1. **Domestic Investment Model** – It can be from Public, Private or PPP.
2. **Foreign Investment Model** – It can be 100% FDI or Foreign-Domestic Mix.

And, depending on where the investment goes (or how investments are planned), there are various investment models. A few include:

1. **Sector Specific Investment Models** (In SEZ or MIZ etc).
2. **Cluster Investment Model** (Eg: Food Processing Industries)

Project Finance Schemes and Finance Models : Understanding Models

A road can be constructed by adopted different models. Let's analyze a few cases to understand the concept.

1. Case 1: Government machinery and funds are directly used to construct a road.
   No intermediaries or third parties are involved. —>Disadvantage: Government needs money to start the project.

2. Case 2: A bid is placed for the road work contract. Usually a contractor or company with lowest bid gets the project. Government sanctions funds in part or full, depending upon the completion of stages.
3. Case 3: Government spends no money from its pocket, but asks a company to construct the road. (No private firm will engage in constructing roads in a country unless they get returns for it – You know that!) Government offers to collect toll fees from the road for a fixed period of 10 or 15 years until they recover their cost and decent profit. —> The benefit of this approach is that without spending any amount from Government's pocket, the nation will get a road. Toll charges in addition to tax paid is a matter of concern, but it's better than the case with no road or poor road with traffic congestion.

Investment Models in Relation With India

Hope it's clear by now that **capital formation** is necessary for any country to grow. But the process is not easy. The savings rate in India is now near 30%. Percapita Income of Indians is very low and hence the capital available for investing too is low. Investments should be studied from three angles – Households, Corporates and Government. Investments expect a return – be it from Government side or Private side. Though the return on investment in terms of profit or margin is the main motive behind investments, its effect on the welfare side and development should not be neglected.

DIFFERENT MODELS OF INVESTMENT AND PLANNING RELATED TO INDIA INCLUDES:

- **Harrod Domar Model :** The model implies that economic growth depends on policies to increase investment, by increasing saving, and using that investment more efficiently through technological advances. It suggests that there is no natural reason for an economy to have balanced growth. It was more or less a One Sector Model. —>Failed to attract investment on consumer goods in India as we lacked good capital goods industries.

- **Solow Swan Model :** The neo-classical model was an extension to the 1946 Harrod–Domar model that included a new term: productivity growth.
- **Feldman–Mahalanobis model :** A high enough capacity in the capital goods sector in the long-run expands the capacity in the production of consumer goods. Thus the essence of the model is a shift in the pattern of industrial investment towards building up a domestic consumption goods sector. It was a Two Sector Model which was later developed into Four Sector Model. Also known as Nehru-Mahalanobis model.
- **Rao ManMohan Model :** Policy of Econmic Liberilization and FDI initiated in 1991 by Narasimha Rao and Dr.Manmohan Singh.
- **Lewis model of economic development by unlimited labour supply.**
- **Induced Investment Model.**
- **Leverage Investment Model.**
- **Saving led growth model. — Significance to India.**
- **Demand led growth model.**
- **Consumption led growth model.**

Factors affecting Investment Sentiments

- Savings Rate.
- Tax Rate in the country. (Net income available after tax).
- Inflation.
- Rate of Interest in Banks.
- Possible Rate of Return on Capital.
- Availability of other factors of production – cheap land, labour etc and supporting infrastructure – transport, energy and communication.

- Market size and stability.
- Investment friendly environment in the country (policies of the government).

Way Forward

- New projects especially large-scale transit projects are significant for increasing mobility and for the series of changes in land use patterns. PPPs have the potential to deliver infrastructure projects better and faster. Currently, PPP contracts focus more on fiscal benefits.
- There is need for a serious assessment of the efficacy and the likely benefits of increasing private sector participation in metro rail projects before the adoption of this model.
- NITI Aayog in its document **'Strategy for New India @75'**, targeted investment rates to 36 per cent by 2022-23 from 28 percent of 2017-2018.
- To raise the rate of investment (gross fixed capital formation as a share of GDP) slew of measures will be required to boost both private and public investment.
- Private investment needs be encouraged in infrastructure through a renewed public-private partnership (PPP) mechanism on the lines suggested by the Kelkar Committee.
- A mature PPP framework, along with a robust enabling ecosystem shall enable the Government to accomplish, to a considerable extent, what our Prime Minister, has said “The Government has no business to do business” and thereby promote private sector investments and participation towards the nation building.