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**Summary**

**Part 1: Sovereign wealth fund overview**

1.       In most cases, the funds for SWF sourced from oil revenues.



2.       SWF in China and Singapore sourced from trade surpluses.

3.     Rapid growth in SWF:  from 1990 to 2013.

4.       24% annual growth rate between 2010-2013.

5.       3 distinct roles of SWF:

a.        serve as a **source of capital** for future generations,

e.g. Kiribati Revenue Equalization Reserve Fund, extraction of guano stopped in 1979, but funds remains key economic contributor.

- The fund is 10x the Gross Domestic Product (GDP) of Kiribati.

- Interest rate of the fund contributes 30% of the Kiribati’s revenue.

b.       a **stabilizing role** by reducing the volatility of government revenues

-          stabilizing role for countries that depend heavily on commodity revenue.

-          e.g. alleviate pressure on falling prices of oil for certain countries

c.        as **holding companies**, with which the government places its strategic investments.

-          For strategic investment purposes by public leaders in domestic/foreign firms

**Part 2: Mixed Legacy**

1. Case study on Norway in 1970s & 1980s
   1. Oil prices surge, sudden increase of funds
   2. Most of the money was spent immediately, some of the spending were **not** beneficial long term (increase in minimum wage leading to an uncompetitive economic sectors in the global market)
   3. Some of the funds spent on dying sector (shipbuilding).
   4. Some of the funds spent on new ventures of the friends and relatives of parliamentarians or of the bureaucrats responsible for allocating the funds.
   5. Oil prices dropped in the 1980s, which led to a drop in Norway’s GDP () between 1985 to 1988.
2. SWF can address this downside of wealth accumulation in 2 ways:

a.        **Disallowing immediate spending**, preserving the gains for future generations.

b.       Reduce the risk that government officials spending these revenues in an unwise or corrupt manner (assuming, of course, the sovereign fund is run in a professional manner.)

1. Structure of SWF can face an serious agency problem – introduce short-run pressures on SWF to financially support local firms or subsidize industrial policies within the country.

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**Summary**

**Abstract**

* Sovereign wealth fund allows for temporary windfall (large amount of unexpected money, e.g. striking oil) into a permanent stock.
* Through sovereign wealth fund, countries can avoid volatility and [Dutch disease](https://www.investopedia.com/terms/d/dutchdisease.asp) effects.

**Theory**

* SWFs are crucial for harnessing the benefits of natural resource rents, if the are tailored to the level of development of the country.
* In general, SWFs are a ‘future generations fund’ for developed countries for **developed countries**.
* Whereas for developing countries, they are for repaying debts, domestic investments and serves asa temporary parking fund to avoid issues from investing too quickly.
* Simply because must need to repay debts and invest domestically **before** saving abroad.

**Permanent income hypothesis**

* **Permanent income hypothesis** states that a resource revenue should be saved to convert temporary windfall into permanent stick of financial assets in form of an offshore SWF.
* Afterwards, the government can then consume (read: spend) a constant amount from the windfall in perpetuity (‘forever’), equal to the windfall’s present value.
* Governments should spend the interest from the SWF.
* Spending should be a constant fraction of the total wealth.
* Percentage of spending (relative to SWF) in the early stages of windfall should be high relative to the asset.
* As resources are extracted and fund grows, then spending percentage should be half of the SWF.
  + **Example:**

In recent years, Norway’s Government Pension Fund–Global (GPFG), which has been described as a model for other funds, has done exactly this by lowering its *handlingsregelen* (budgetary rule) from 4% to 3% in 2017.

* SWFs in developed countries should invest offshore and not domestic.
  + Reason:
    - framework assumes easy access to global capital, projects that are profitable at the world rate will already be financed.
    - If resource windfall is large (relative to country size), and all is invested in domestically, then this excess of savings pushes domestic ROI below the potential of that abroad.
    - If capital does not move freely, domestic economy sees overinvestment in unnecessary projects and dismal rates of return.

3 uses of a SWF:

1. As saving instrument for future generations
   * If the resource is extracted quickly and intensely, then a greater share of the revenues will need to be saved.
   * If it is left in the ground and extracted slowly, then more can be spent.
   * In both cases, the share of revenues that is saved should increase with time, as the government can instead spend the interest from the SWF
2. Repay debts and domestic investments.
   * Developing economies tend to have only asymmetric access to global capital markets: saving more easily than they can borrow.
   * Developing countries are characterized by a lower capital stock, and a higher return on capital, than their developed counterparts.
   * Analysis on developing countries done using a framework by van der Ploeg & Venables.
   * They assumed that the country’s domestic interest rate increases with its level of foreign debt.
   * Developed countries = Countries with net foreign assets = can borrow at the constant global rate.
   * Developing countries = those with debt = face financial friction and an increasing cost of borrowing.
   * Developing countries can use the resource windfall to ease some of the financial friction.
   * This can be done by **repay expensive foreign debts** or **invest in domestic project with ROI higher than global rates**.
   * Van der Ploeg & Venables must gradually repay foreign debt whilst at the same time, invest in local projects.
   * Choose the project with best ROI whilst paying back the worst of debt until all the debt is repaid and local projects become funded by private global capital market.
   * When this is achieved, domestic interest rates will be **equal** to the global rates.
   * Then the developing country can start saving revenues for future generations.
   * In the process of repaying debt and financing domestic projects, gov spending (on healthcar, justice and edu) should also be rising, to ensure effective bring development.
   * Spending must be balanced,
     + Too much early spending = rob future generations
     + Too much late spending = rob current generation
   * Direct transfers to citizens can also be considered by gov as they can improve accountability, allow access to capital, and relax absorption constraints.
3. As parking funds

* Absorption constraints

= difficulties an economy face in finding productive use for sudden influx of investment.

* Parking fund

= allows gov to **hold** some of the wealth offshore until the economy is ready to use it.

* In essence, put the money somewhere whilst they figure out what to with it.
* These constraints can be microeconomic – e.g. lack of domestic talent
* Can also be macroeconomic – rapid expenditure by gov will push up the the price of nontraded services (e.g. electricity, public services, real estate) relative to the traded goods (e.g. oil, automobiles, iron ore, etc).
* Causing the real exchange rate to appreciate.
* This may cause the non-resource export sector to contract, i.e. Dutch disease.
* This may cause **irreversible** loss of industries.
* Appreciation can happen either through nominal exhcnage rate **or** through nominal wage and price inflation.
* Appreciation through nominal wage and price inflation can be a challenge for monetary policy as the appreciation of exchange rate can cause a recession.
* All of these effects can be minimised if the gov commits to saving resource revenues in **offshore parking fund** while it scales up the country’s absorptive capacity.
* Spreading the spending overtime (e.g. over 10 years via parking fund instead of 2 years) allows the gov to develop the capacity to optimise the spending.
* This also prevents inflation.
* Spending focused on **expanding absorptive capacity** helps diversify the economy.

**Risks management through Hedging and Stabilization funds**

* Prior theory assumed resource revenues and investments are certain, but in reality they are not.
* Simply because
  + size of resource deposits are unknown (you don’t know how much oil you have)
  + resource prices are highly volatile (up and downs, up and downs)
  + swf returns are risky.
* This means gov must try to reduce the aggregate uncertainty of the income they receive.
* Remaining uncertainty can be managed through a **stabilization fund**, if monetary policy cannot offset shocks to gov demand.
* Aggregate uncertainty in gov revenues can be reduced through **hedging**.
* Small windfalls can be hedged using swaps and futures.
* Large windfalls can be hedged using asset allocation in future generation funds.
* If transaction costs and uncertain correlations makes hedging too difficult at individual stocks level, gov can do so through **equity/bond mix.**
* **Assuming the share of equity is positively correlated to the resource price,**
  + Overall share of equities should be low whilst much of resource is beneath ground.
  + Equity share then rise over time as resources are extracted
  + Proceeds then goes to SWF.
  + E.g. Norway’s SWF has both reduced its allocation to the equities that are most exposed to oil prices and increased its equity/bond mix.
* Even after hedging, gov revenues will still be volatile. Solution? **Precautionary savings.**
* This amounts to saving more today in order to generate more interest income for generations in the future as compensation for the extra risks they have to face. (Prudence and not risk aversion)
* The savings should **not** be used to smooth fluctuations in oil price.
* Precautionary savings are done by **heavily discounting value of future resource revenues.**
* Resource price shocks tend to be permanent and prices follow a random walk.
* It does not make sense to add to a stabilization fund after prices rise, or draw down on it when prices fall, because the best forecast of the price in the future is the price today.
* If prices are low today, then it is best to get used to it.
* The best reason to establish a stabilization fund is **to smooth** the government’s adjustment to lower commodity prices.
* It will take time for prices of domestic goods to adjust, through deflation or exchange rate depreciation, and time for public sector workers to be absorbed into the private labor force.
* Drawing down a stabilization fund can help **mitigate** the short-term frictions of lower government spending.

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