



Republic of Cyprus Ministry of Finance

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The Cyprus Sovereign Wealth Fund - the role of oil and gas revenues

1.11.2017

Presentation Outline

- 1. The role of oil and gas revenues in an economy**
- 2. Uniqueness of Natural Resource Sector**
- 3. Benefits and Risks**
- 4. Link of SWF to economic policy**
- 5. Main Features of the Cyprus SWF/ NIF**
- 6. Fiscal rule models for SWFs**
- 7. Words of caution - Observations**
- 8. The energy pathway of RoC**
- 9. Conclusion**

Blueprint of Economy Link to Natural Resources





Parliaments & Government ministries have key policy making roles

- **Overall resource management.**
- e.g. Pace of **economic development.**
- **Security of supply.**
- **Structure of the oil & gas market.**
- e.g. Domestic consumption, export, distribution, **role of state oil companies.**
- **Oil & gas fiscal regimes.**
- **Incentives for investment.**
- **Sharing of resulting revenues.**
- **Environmental and safety standards.**



Political Economy Issues

Experience of resource rich (RR) countries demonstrate the challenges faced:

- **Excessive spending** led to large deficits and heavy indebtedness.
- **Macroeconomic volatility**: affected savings -investment decisions and hurt growth.
- **Deterioration of institutions** (e.g. corruption, autocracies known as the “political resource curse”).
- **Democracy consequences**: Oil-rich countries have high levels of inequality: Oil Hinders Democracy (Ross M. 2001).
- **Internal and external conflicts**, which are very bad for development.
- **But SWFs can protect** against cronyism & Corruption.

Resource Wealth, Institutions & Corruption

- Corruption weighs on economic growth (Mauro, 1995)



- Robinson et al (2006) argue that **resource riches** raise the value of being in power and **induce politicians to:**
 - Expand public sectors, and
 - Bribe votes with unproductive jobs, inefficient subsidies and tax handouts.
 - Over-invest in partisan projects (“white elephants”).
- Natural resource bonanzas encourage productive entrepreneurs to shift to rent seeking (Murphy et al, 1989)



Uniqueness of Natural Resource Sector

- Special features:

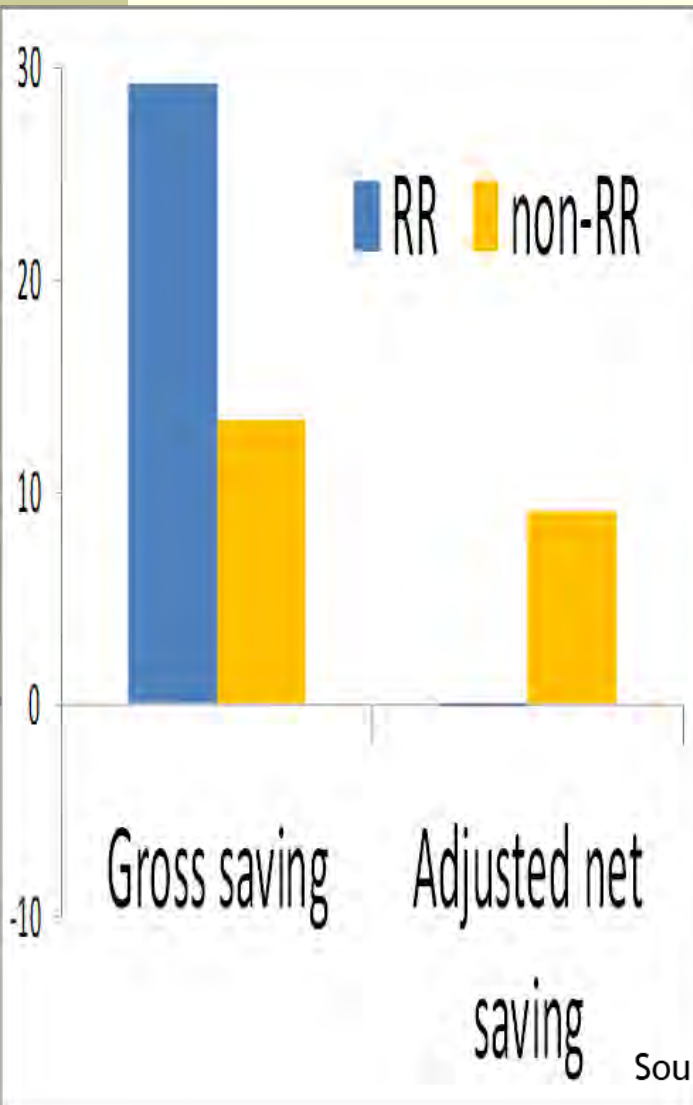
- A user cost associated with the exploitation of **exhaustible** resources. Resources used today not available in future.
- **Inter-temporal exploitation** is an important issue. A certain extraction profile maximizes the wealth or Net Present value (**NPV**) of the resource.
- Optimal Extraction Rule:
$$NPV = \sum_{t=1}^n [P(t) \times q(t) - C(q(t))]/(1+r)^t - K$$
- A “Resource Rent” associated with exploitation of this sector. Unlike other sectors the **optimization rule** is not simply “**Marginal Revenue = Marginal Cost**”.
- Generally **prices are determined in the world market** and producers are price takers, though **producers do have some market power**.
- Several benefits to economy but many costs also involved: Environment, Dutch disease, Administration and tax compliance, Uncertainty of government revenues.

Natural Resources: Windfalls



- Resource Windfalls are not Helicopter Money as they do not involve debt monetization of Aggregate Demand and thus the inflationary risk of Central Banks issuing money.
- Resource rents are a sizeable and an important share of the economy in many countries.
- On average \$1340 per capita annually in Resource Rich Countries over 2001-2011, but up to \$30K.
- On average 9.9% of GDP in 2001-2011, but up to 90%.

Natural Resources: Potential Boon for Growth



- Receipts from natural resources: up to 90% of govt revenues.
- **Similar to capital flows, foreign aid, remittances.**
- Statistical significance of FDI in growth regressions.
- Boost to **saving & investment.**
- Potential for **development.**
- Reduction of distortionary taxation.

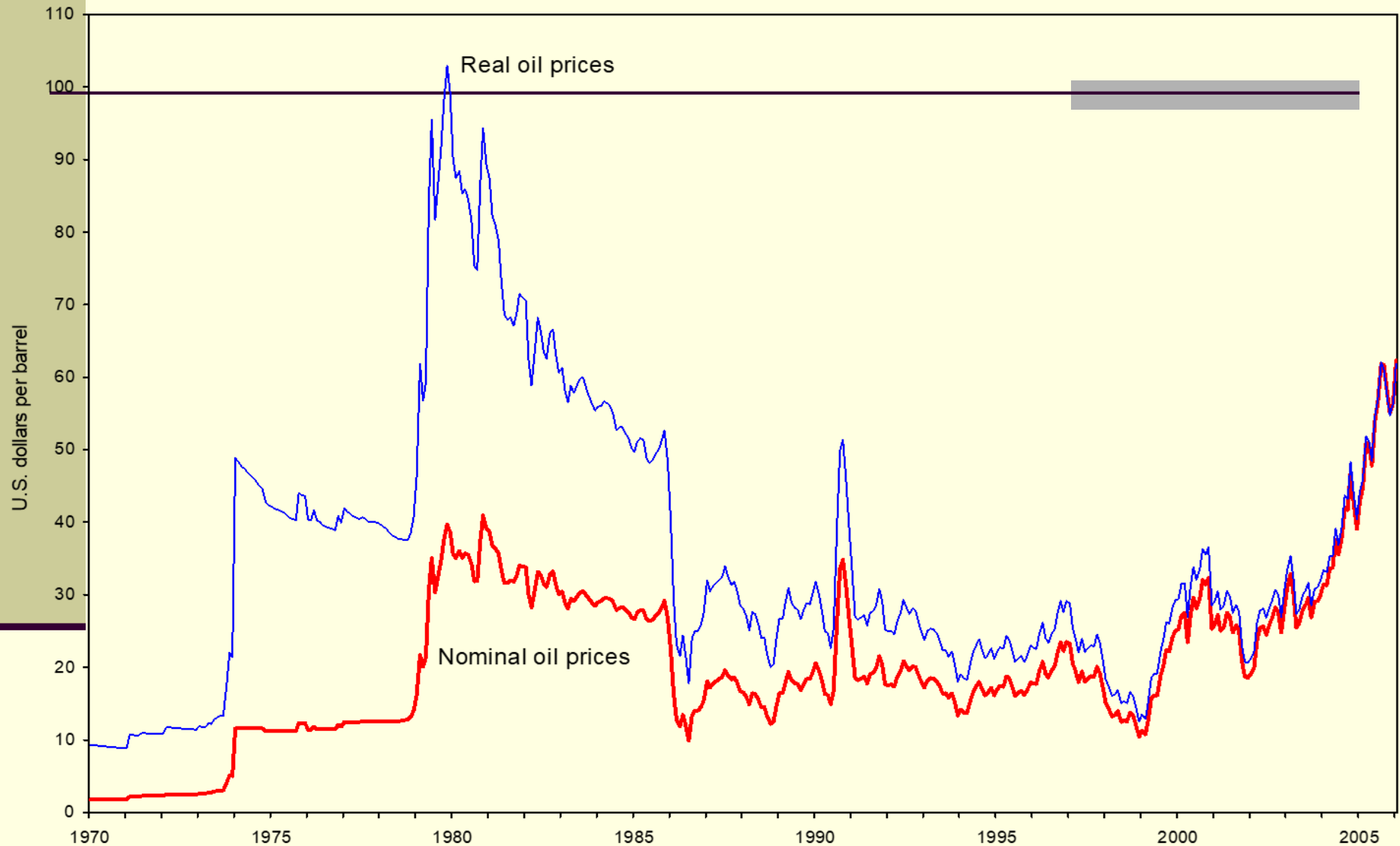


Resource Windfalls: Potential Risks (1)

1. Short term and medium term concerns:

- Generate and increase macroeconomic volatility - windfalls tend to be pro-cyclical, volatile and hard to predict.
- **Volatility of resource revenues** is the biggest risk.
- Capital flows surges: probability of sudden stop (Currency & Deposits, Loans, Trade Credit, Portfolio & Direct Investment).
- **Financial stability concerns** (if followed by capital flows).
- Credit booms, **asset price bubbles**, **balance sheet vulnerabilities**.
- Concerns that higher spending can drive up Inflation.
- Increased inflation is associated with credit growth and possibility of financial instability.

Crude Oil Spot Prices, 1970-2006 1/ A Rollercoaster Ride



Sources: IMF, *World Economic Outlook* (Washington, various issues); and IMF staff estimates.

1/ Average of U.K. Brent, Dubai, and West Texas Intermediate. Real oil prices deflated by the US CPI (December 2005 = 100.)



Resource Windfalls: Potential Risks (2)

2. Longer term concerns:

- Price & Revenue uncertainty → Fiscal sustainability.
- If resource is non-renewable or managed unsustainably.
- Upward pressure on the exchange rate (Dutch disease):
- Real effective **exchange rate appreciation**, often lost price competitiveness and dislocation of other tradable sectors by energy sector.
- Development of the non-oil or non-HB economy.
- General economic stability vs vulnerability.



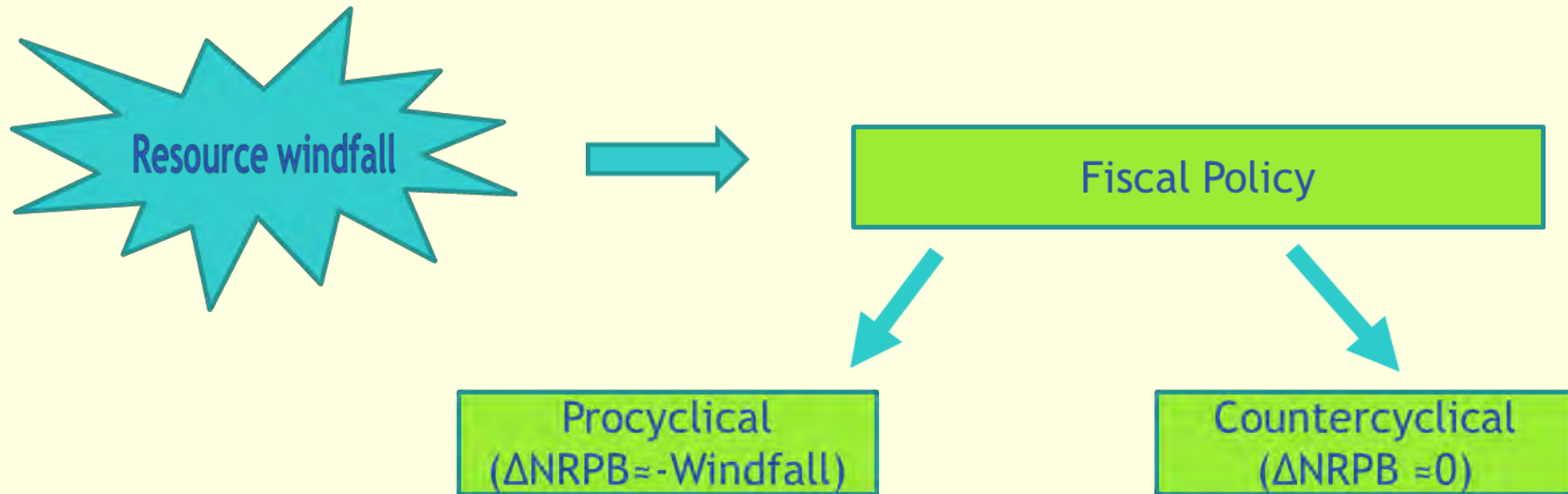
Resource Windfall: Macroeconomic Policy

- Fiscal policy (FP) gets a major impetus from the windfall.
- Main instrument of FP in resource-rich countries: Non-resource primary balance (NRPB).
- **NRPB** = Non-resource Revenue – Expenditure.
- Fiscal Policy can achieve stability via **Keynesian countercyclical policies**:
- **Expansionary FP** during recessions and **Contractionary** during booms.
- Empirical evidence supports theory: Fiscal multipliers are usually positive.

The Business Cycle



Resource Windfall: Macroeconomic Policy



- Procyclical FP = fiscal impulse is positively correlated with the windfall
 - Fiscal impulse = change in primary deficits
- NRPB is a Key fiscal indicator in Oil & Gas exporters.
- Oil and Gas SWFs can assist but not substitute sound fiscal management



Resource Windfall: Fiscal Link to the SWF

- **Sustainable income** based on Cyprus National Investment Fund (NIF) and hydrocarbon (HB) reserves.
- Focus on long-term **fiscal sustainability**.
- All HB **revenue** (Govt share based on PSA) goes to NIF / SWF after being recorded in the state budget.
- Withdrawals from Fund are also **recorded in the state budget**.
- **SWF hedges against Commodity Prices Volatility &** insulates the economy from income fluctuation: A buffer against shocks.
- Objective to maintain real value of wealth: in the Fund and in the ground.

Estimated Fund Sustainable Income

$$ESI = r \left[v + \sum_{t=0}^n \frac{R_t}{(1+i)^t} \right]$$

Where :

r = the real rate of return

v = the balance of the Fund

R_t = the HB revenue projected for year t

i = the discount factor

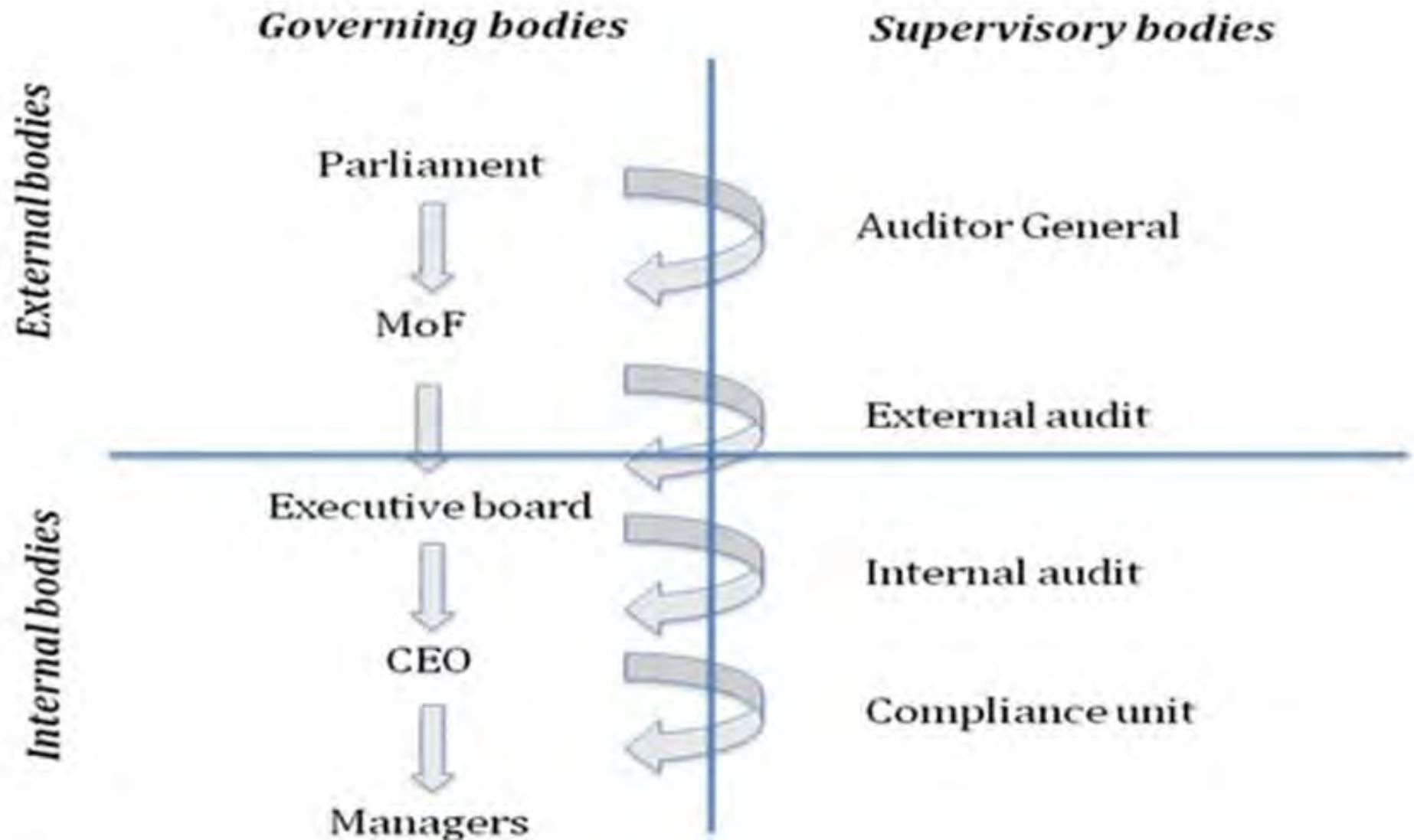
- It is a **guideline** on long-term **fiscal sustainability**.
- ESI is not a legal obligation. It is based on important assumptions about oil or gas reserves, the discount rate and real return.



Main Features of the Cyprus SWF/ NIF (1)

- The organizational design, governance and investment policies of the Cyprus SWF/ NIF are based on best practices and the **Santiago Principles** (Governance, Accountability, Transparency).
- The Cyprus National Investment Fund (NIF) has **3 basic aims: Fiscal smoothing, Debt reduction, Intergenerational.**
- The NIF is **pool of assets** not a separate legal entity.
- NIF will be operationally managed by a statutory management agency, the Cyprus Investment Management Corporation (**CIMC**).
- **Regulations** are accompanying the NIF legislation with clear rules governing inflows and outflows.
- According to the NIF Law there are supervisory bodies shadowing the governing bodies, verifying that the latter operate within the rules and regulations set for them.

Illustrative NIF Governance Structure





Main Features of the Cyprus SWF/ NIF (2)

- The Cyprus NIF is a **Financing type of SWF** pursuing both a **stabilization** and a **saving** role, combining the characteristics of both types of Fund. Twin Goals ensure financial viability if revenues are lower than expected.
- **Stabilization SWFs: Shield economy from revenue instability. Reduce the volatility** of government budget **revenues** by playing a counter-cyclical fiscal role (shorter horizon, more liquid assets) [Chile].
- Econometric research shows that Stab. Funds are associated with a reduction in the volatility of government expenditure: 13% lower than in countries without Funds (IMF WP/14/43, March 2014).
- **Savings SWFs:** Focus on interg. equity & wealth transfers for future generations (longer horizon) [Alberta, Alaska].



Fiscal rule models for SWFs: BIH vs PIH

- There are **2 types of Fiscal rule** models adopted by SWFs: Bird-in-Hand (**BIH**) vs Permanent Income Hypothesis (**PIH**).
- 4% Bird-in-Hand rule in Norway:
- All hydrocarbon revenue of Norwegian government invested in GPF-G.
- 4% of the fund's value in previous year can be used to finance the government's non-oil deficit.
- 4% is a medium-term, “structural” anchor: it leaves space for countercyclical fiscal policy, detached from oil rents cycles.
- **BIH Idea:** Keep fund's value constant, while spending its income.
Spend only interest on NFA.
- **PIH: Spend projected return on both NFA & oil wealth in ground.**
- BIH is more conservative than PIH framework.
- The Cyprus NIF is similar to Norway's GPF-Global, which is also a Financing type of SWF.
- However, the **Cyprus approach is modeled on the PIH** due to the²¹ initial priority to repay debt which lowers the Fund NFA accumulation.

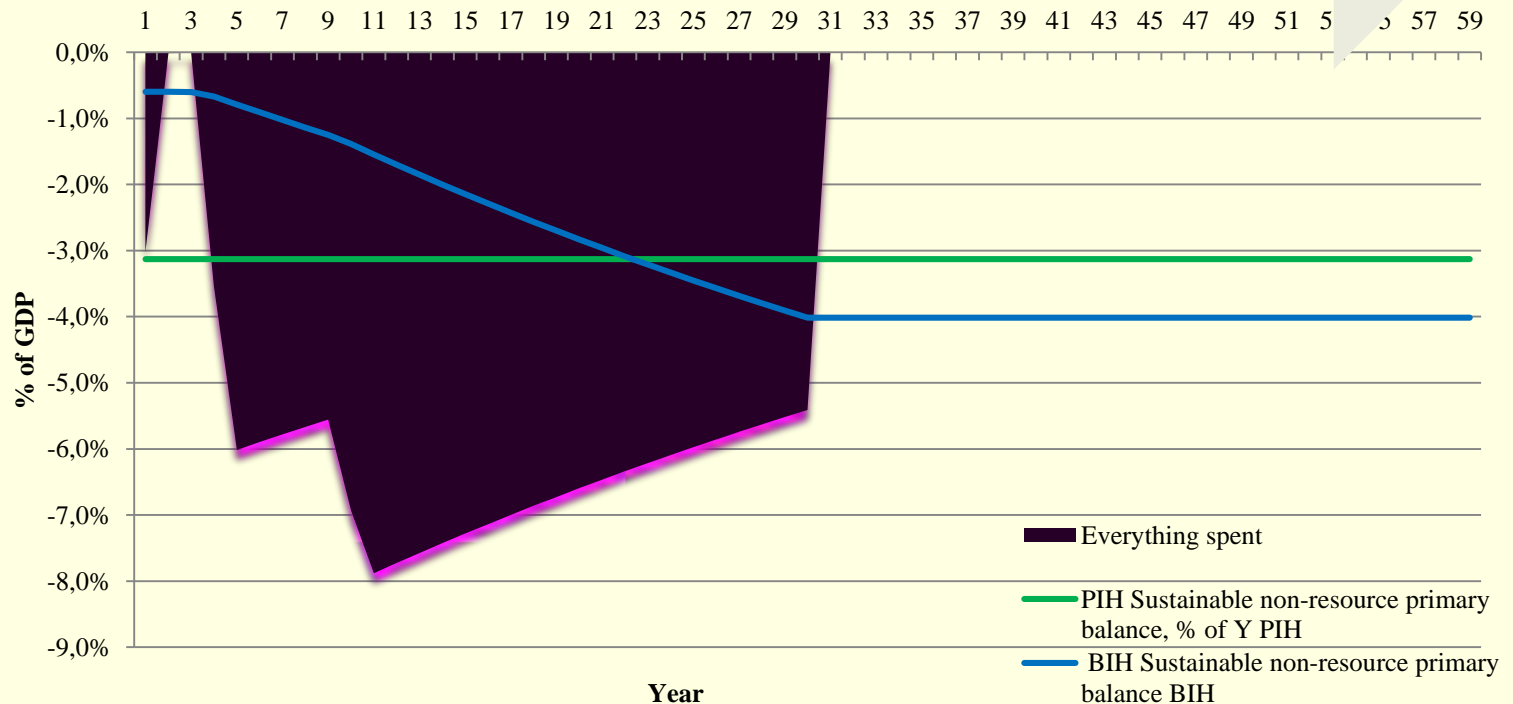
Fiscal Rule Choices wrt NIF Withdrawals

3 Fiscal rule models:

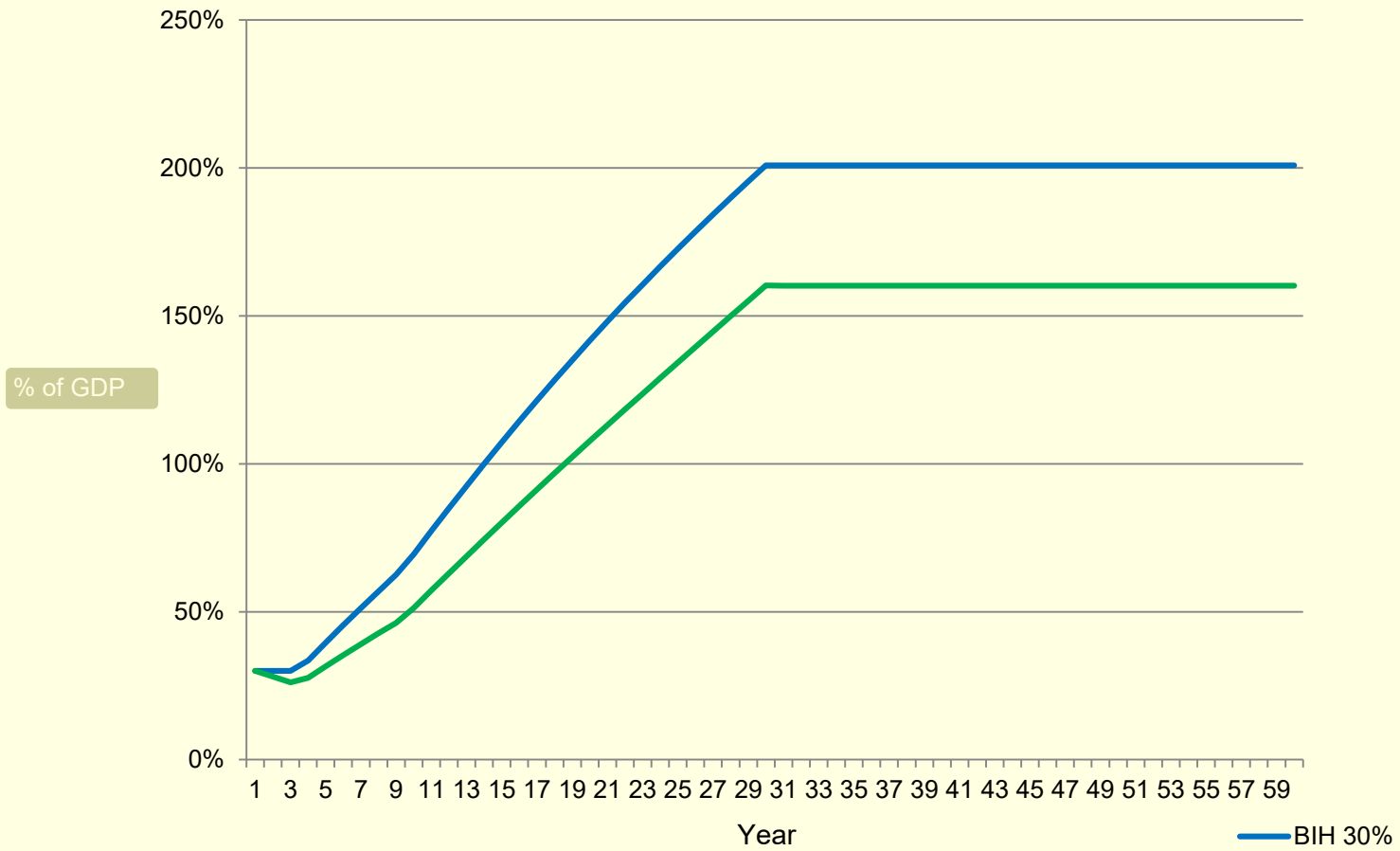
What is earned is all spent:
Non-sustainable – Abrupt end
upon resource depletion

Permanent Income
Hypothesis: Sustainable
NRPB at 3% of GDP

Bird In Hand approach:
Sustainable NRPB at 4% of
GDP due to higher NFA
accumulation



Net Financial Asset Accumulation





The energy pathway of RoC in the East Med

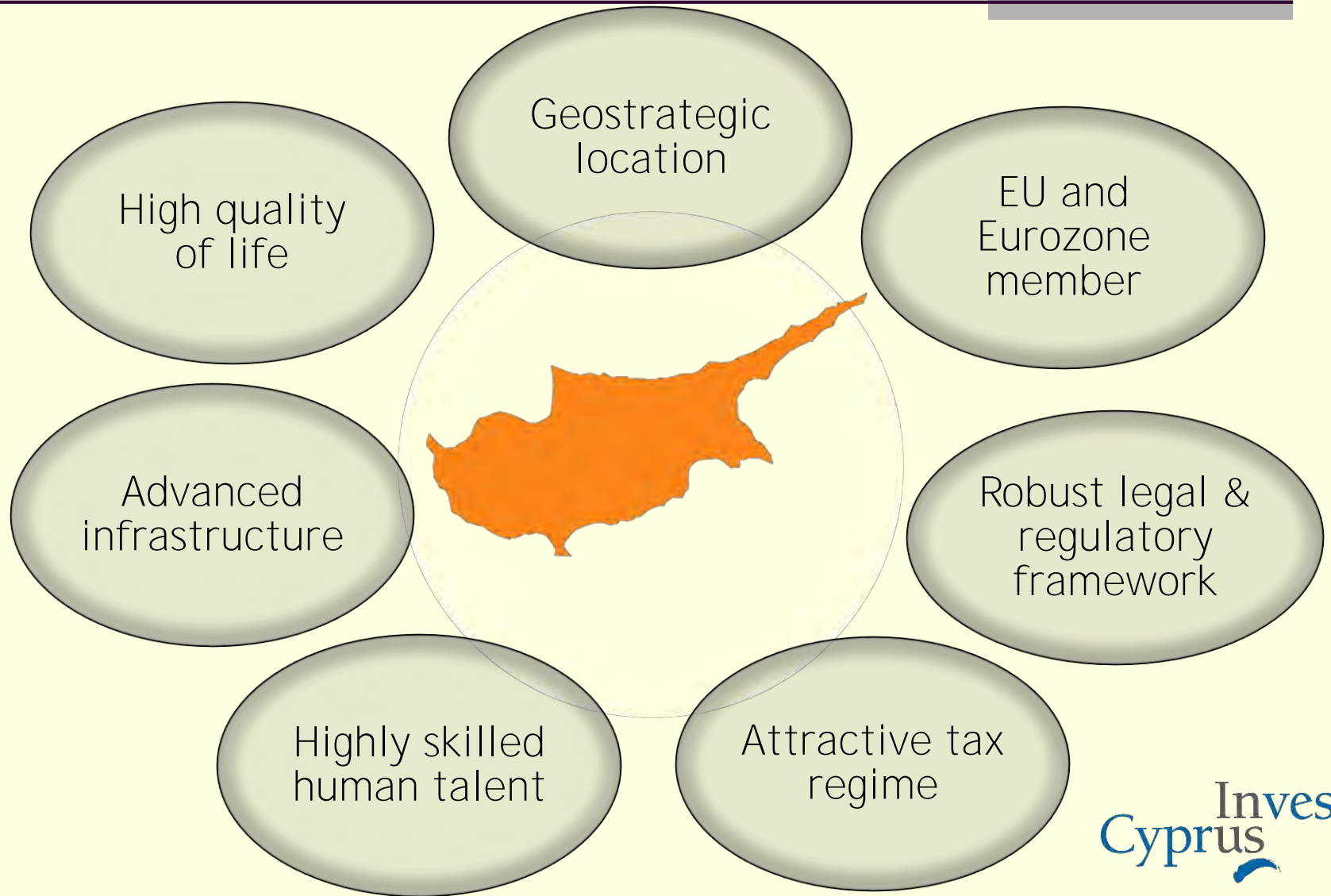
- **Energy is indeed a key component of country development.**
- Becoming a **regional energy centre** or even a hub should be a **strategic goal for Cyprus**, based on next map conceptualization.
- An **LNG Plant at Vassilikos is the principal** if not the only way of achieving targeted and specified results, as well as **optimal and sustainable development** ensuring the **country's energy future**.
- This is feasible if more gas reserves are discovered in Cyprus EEZ.
- A dynamic energy sector can lead to **job creation** across the entire industry value chain and help develop technical expertise and innovation.
- Furthermore, it can contribute to the achievement of a more knowledge-based economy and **increase of state revenues** in LR.
- **Wise management of future hydrocarbon revenues through a Sovereign Wealth Fund** shall maximize the benefits for the ²⁴current and future generations of the Cypriot people.

A concept of Cyprus as a regional energy hub



Can Cyprus Become an Energy Junction?

Cyprus: competitive advantages





Conclusion

- A sound and transparent draft NIF legal framework is in place submitted to Parliament in Sept. 2016. Its discussion concluded on 15.5.2017.
- When enacted the **NIF Law** will enhance the credit rating outlook of the Republic of Cyprus.
- Also it will raise **confidence in the economy** with a beneficial sectoral investment impact.
- NIF is linked to a clear fiscal and spending rules.
- NIF will be an **effective instrument for fiscal and economic management** for the benefit of the Cypriot people across generations.



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