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Towards a New "Saudi Model" of Sovereign Investment: The Role of Investment Income and Asset Recycling in Sustaining Saudi Arabia's Big Push Beyond 2030

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EXECUTIVE SUMMARY

This paper proposes several policies to sustain the investment push initiated by Vision 2030. Specifically, it draws attention to the role that investment income from domestic and foreign assets held by Saudi Arabian government-owned and -supported investors can play in providing sustainable funding for continued economic transformation beyond 2030. Investment income in local and foreign currency can grow and diversify Saudi Arabia's revenue sources, providing income that is uncorrelated with oil and non-oil tax revenues.

The paper adopts a broad understanding of investment income. For the provision of foreign income, we outline proposals to build a global investment portfolio than can serve as a permanent endowment, along the lines of several established global sovereign wealth fund (SWF) peers. With respect to domestic income, we identify the potential income distributions from maturing local investments and an "asset recycling" approach in which income, rent and sales proceeds are reinvested into new investments in the Saudi economy.

Given the size of the Public Investment Fund (PIF), many of our proposals focus on what will be a natural evolution of its mandate: an increasing focus on income provision from its initial focus on domestic investments required under the first decade of Vision 2030. This evolution will align with historical experience of several SWFs. The evolution of its domestic portfolio will also establish a parallel with private-equity finance as the PIF matures from the world's largest "start-up" fund during the initial phases of Vision 2030 to a more of mature model offering a source of patient permanent capital.

Several policies to establish a framework for the provision of sustainable foreign and domestic investment income are proposed:

- A continuation and strengthening of rule-based fiscal policy and greater efficiency in public spending and investment will promote the growth of domestic- and foreign-investment pools from which income can be sustainably drawn.

- The anticipated growth in total Public Investment Fund (PIF) assets to around $2 trillion through 2030 will allow for an increase in both domestic and foreign capital deployments. However, a shift in the balance of domestic and foreign assets from the current 70% to 80% allocation to domestic assets to a 50/50 split should be pursued beyond 2030 – given the equal importance of domestic and foreign income and revenue. The paper proposes that within the PIF's global portfolio, 80% of assets should be allocated to growth-orientated portfolio investments (i.e. 40% of total PIF assets), coupled with a 20% allocation to direct, strategically focused investments (i.e. 10% of total PIF assets).

- Building this foreign-asset portfolio is critical to establishing a permanent source of foreign-currency income alongside oil revenues. Foreign-currency income is required to pay for imports associated with large-scale infrastructure investments and megaprojects under Vision 2030 – underlining the close correlation between domestic spending in Saudi riyal and the use of hard-currency income.

- Maintaining external balance is also important from a macroeconomic perspective, including managing the fixed exchange rate and funding the current account in the Balance of Payments, which has recently turned negative due to lower oil exports relative to imports. The need for dollar-based financing is evident in increased foreign borrowing by the central government, the PIF, Saudi Aramco and the Saudi banking sector in recent years.

- Income on the PIF's maturing domestic assets should also play an increasingly important role. "Asset recycling", pursued with success in Canada and Australia, is an attractive option: the PIF can monetize maturing domestic investment through asset sales, licensing and public-private partnerships. These proceeds will free up capital for other investments, while also creating a pipeline of investment vehicles for attracting Foreign Direct Investment and "crowding-in" private-sector capital.

- The anticipated shift towards domestic investments by GOSI and other government-sponsored funds will enable a consolidation of their surplus foreign assets under the management of SAMA, while also improving liquidity in domestic capital markets that will promote the domestic asset-recycling approach proposed for the PIF.

- Given the growing consensus that global oil demand will remain robust for several decades and that Saudi Arabia will be the world's leading low-cost oil producer under a multi-decade energy transition, there is scope for gradually increasing the PIF's share in Aramco from the current 16% to 20% and eventually 25%. This will position the PIF as a custodian of an increasing share of Saudi oil revenues, while still directing 75% of oil revenues towards the budget, even as non-oil revenues grow.

The paper concludes with a discussion of how the evolution of the PIF's mandate will require it to revisit its operating model to clarify its categorical and cultivated comparative advantages. If the policies outlined in the paper are successfully implemented, the coming decade could see the emergence of a distinctive "Saudi Model" of investing; one that integrates local additionality with global performance excellence, and stands alongside the Canadian, Yale, and Norwegian models as a recognized reference point for peers.

1.) The Big Push under Vision 2030

Since its announcement in 2016, there has been two distinct phases in implementation of Vision 2030, Saudi Arabia's sweeping agenda for economic transformation and diversification. The first phase, between 2016 and 2022, focused on fiscal consolidation following the collapse in oil prices in late 2014. A sharp reduction in spending was matched by the introduction of value-added tax (VAT) and prudent borrowing by the central government, Saudi Aramco and the PIF, backed by the strength of their respective balance sheets.

The second phase, initiated by the boom in oil revenues in early 2022, saw a dramatic scaling up of domestic infrastructure investment, complemented by industrial policies focused on renewable energy, refining, chemical production, and the development of natural resources beyond oil. Large-scale domestic investments were coupled with sweeping social and regulatory reforms targeting an increase in youth employment, female employment and the growth of high-value service sectors such as tourism, technology and financial services.

Across these two phases, the defining macroeconomic feature is a profound shift in the balance between foreign and domestic asset accumulation. With the PIF emerging as the primary implementation authority for Vision 2030, oil revenues have increasingly been directed towards large-scale domestic investments associated with Vision 2030. This marked a departure from the historic pattern since the 1970s in which surpluses and oil-revenue windfalls were largely accumulated in the form of foreign assets.[1]

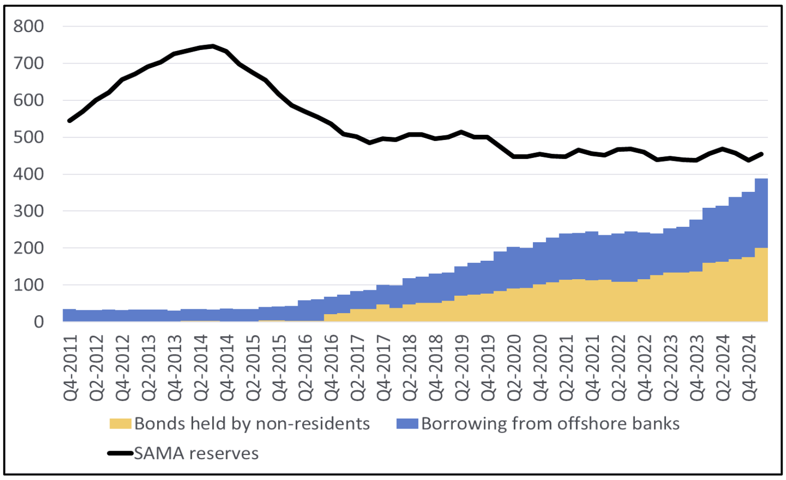
As shown in Figure 1, Saudi foreign-exchange reserves held at the central bank, SAMA, declined sharply after 2014 and have not since recovered, despite an extended period of elevated oil prices and revenues. At the same time, external borrowing by the central government, state-owned and Saudi banks has increased in recent years. Consequently, the oil-price boom in 2022 and 2023 resulted in relatively small current-account surplus (which turned to a deficit in 2024) compared to previous windfall episodes, as well as smaller fiscal surpluses. Private banks have also resorted to foreign borrowing to fund loan growth in excess

[1] Caballero, R., Farhi, E., and Gourinchas, P. (2008). "Financial Crash, Commodity Prices, and Global Imbalances," *Brookings Papers on Economic Activity*, 2008, 1–55.

of domestic deposits, resulting in a negative Net Foreign Asset position in the Saudi banking sector for the first time since 1993.

There are many reasons for this shift, including demographics that are resulting in higher per capita domestic spending and smaller fiscal and external surpluses for a given oil price-production mix. The most significant change, however, has been the PIF-driven "Big Push" into transformative domestic investments aimed at diversifying the Saudi economy, which required a significant increase in imports and a large increase in fiscal spending.

Figure 1: Declining Foreign-Exchange Reserves and Increased Borrowing (US$bn)



Source: Brad Setser, Council on Foreign Relations

This Big Push has delivered impressive results and brought about a much-needed focus on long-term investment over short-term consumption. The imperative now is to enhance the resilience of the Saudi economy against fluctuations in oil prices and revenues, such that the Big Push can extend beyond the targets of Vision 2030 at the end of the current decade. While the domestic focus under the Big Push of the past decade has resulted in a decline in traditional foreign-asset buffers, Saudi policymakers now have an expanded policy toolkit to draw on in breaking the historical procyclical, boom-bust relationship between oil revenues and the macroeconomy (Figure 2).

Non-oil revenues have grown significantly over the past decade, both in total and as a percentage of government revenues. Second, there is scope for greater efficiency and prioritization in public spending and investment – something senior Saudi leaders and policymakers have emphasized in recent months in response to lower-than-anticipated oil revenues. Given low overall debt levels, significant state-owned assets and high credit ratings, Saudi Arabia's ability to draw on bond financing, privatization and asset sales through not only the sovereign balance sheet, but also that of Saudi Aramco and the PIF, remains significant.

We believe one additional policy will come into sharper focus over the coming decade: the use of sustainable income generated on a wide range of state investments. Below we explore possible sources of such income, but they are wide ranging: from consolidated pension and social-security fund balances (much of which remain offshore for what are now largely historical reasons), existing assets and future capital deployments by the PIF, as well as domestic projects and companies linked to Vision 2030.

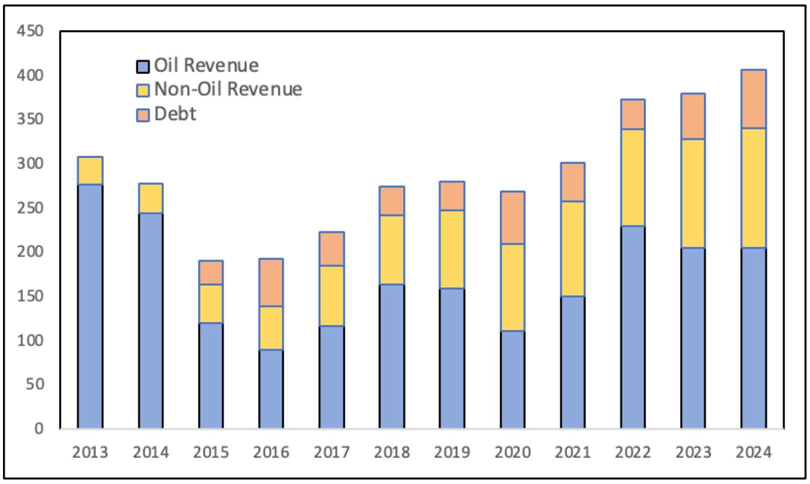
2.) The Key to Sustainability: Reducing Oil Dependence and Boom-Bust Procyclicality

The overarching challenge in sustaining Saudi Arabia's Big Push beyond 2030 is to increase the resilience of investment to fluctuations in oil prices and -revenues. Historically, even during periods in which oil prices fell sharply (such as 2009 and 2014), oil's share of total revenue remained above 85%, due to a lack of non-oil tax revenue. Consequently, shocks to oil revenues were accommodated by first drawing on previously accumulated foreign-asset buffers, and once those were depleted, through procyclical cuts in public spending, particularly investment (a reduce share of capital expenditure to total spending).

There are some early indicators of progress around Saudi Arabia's ability to stabilize public investment and other macroeconomic activities despite recent declines in oil revenues. The introduction of a VAT in the aftermath of the 2014 oil-revenue shock initiated a structural shift, resulting in non-oil revenues growing steadily ever since. The growth of non-oil economic activity – whose contribution to real GDP exceeded 50% for the first time in 2023 – further supports revenue collection from non-oil sources. Saudi Arabia also engaged in successful debt issuances, including foreign borrowing in the aftermath of the 2014 oil price shock, given the low levels of indebtedness and the strength of the sovereign balance sheet and that of state companies (notably Saudi Aramco and the PIF).

These developments mean that Saudi Arabia's portfolio of revenue sources is now much more diversified than before the 2014 shock (Figure 2). This diversification is evident both in the total size of annual non-oil revenues in recent years, and the fact that oil's share of total revenue has remained below 70%, even during the large windfall in 2022.

Figure 2: An Increasingly Diversified Revenue Sources ($bn)

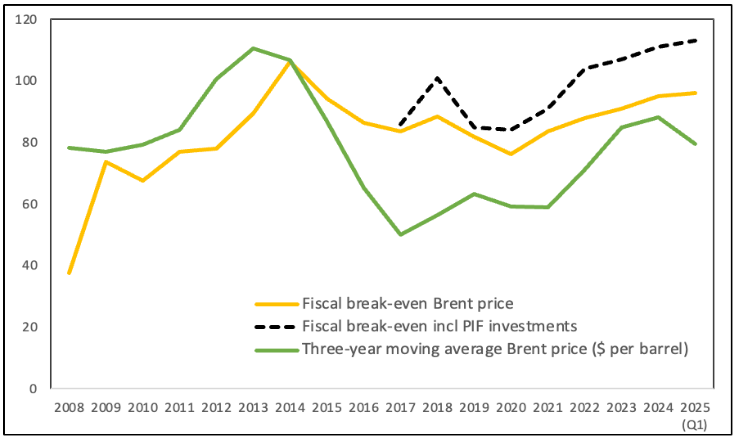


Source: SAMA and Saudi Debt Management Office

This diversified portfolio of revenue sources is critical to Saudi Arabia's resilience in response to oil shocks, as it is clear that – absent a dramatic rise in global oil prices – oil revenues alone are no longer sufficient to finance a sustained Big Push and demographically driven spending needs. To underline this point, consider recent estimates of the average price per barrel required to balance the budget for assumed levels of spending and oil production (that is, avoiding the need for new debt financing). As shown in Figure 3, Saudi Arabia's fiscal "break-even oil price" – the per-barrel price of Brent crude oil required to balance the budget decreased after the 2014 oil-revenue shock through 2020, due to the growth of non-oil revenues and a sharp reduction in spending.

However, it is striking that fiscal break-even oil prices have again risen in response to increased oil revenues since 2022, particularly when investments made the PIF are included (see Figure 3). The most recent estimates for the fiscal-breakeven price for oil, suggest that in the first quarter of 2025, Brent crude prices would have had to be as high as $113 per barrel to balance the budget. Clearly, with oil prices remaining below $80 per barrel since August 2024 (and considerably lower since), some combination of spending consolidation, increased debt issuance and the generation of new revenues will be required to stabilize spending and ensure that fiscal policy provides a countercyclical impulse over the coming decade.

Figure 3: Fiscal Break-Even Oil Prices Have Been Rising



Source: IMF (break-even estimates) and Bloomberg (oil prices)

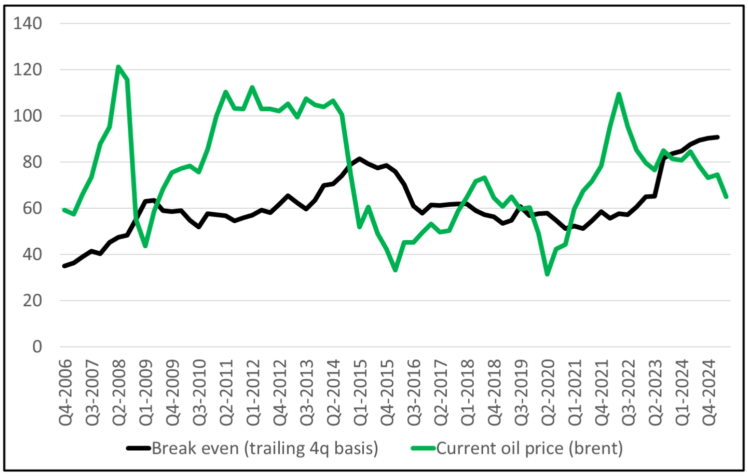
A related way to assess macroeconomic sensitivity to oil prices and oil revenues is to use the same break-even concept – in this case, called the "external break-even oil price" – to estimate the oil price needed to balance the current account in the Balance of Payments. Rather than estimating the oil price required to balance the budget, economists also estimate the oil price needed to generate sufficient export revenues to pay for imports (again, assuming fixed production and export volumes) and balance the current account.

Figure 4 shows estimated external break-even oil prices for Saudi Arabia.[2] The steady increase in the external break-even oil price (Figure 4) matches that of the fiscal break-even above: by the end of 2024, balancing the Saudi Arabia current account required an average oil price of around $90 per barrel, with the lower observed oil price in the 4th quarter resulting in a current-account deficit. This underlines a need for external, dollar-denominated borrowing

[2] For a decision of the methodology used, see Setser, B. and Frank, C. (2017). Using External Break-even Prices to Track Vulnerabilities in Oil- Exporting Countries," Discussion Paper, Council on Foreign Relations.

and the value of growing source of foreign-currency income in the Saudi context: simply put, large-scale public investments "suck in" imports that must be paid for in foreign currency.

Figure 4: The External Break-Even Oil Price Has Also Risen



Source: Brad Setser, Council on Foreign Relations

Historically, there has been a strong correlation between the level of capital expenditure and that of oil revenues in the three preceding years, on both the up- and downside. This suggests that the burden of fiscal adjustment once reserve buffers have been exhausted has historically fallen on the capital-spending component of the budget. A continuation of this stop-start pattern in public investment would undermine the Big Push for diversification in the event of sustained lower oil prices and oil revenues.

A key policy objective over the coming years will, therefore, be to ensure that the historical procyclical relationship between public investment and oil revenues is broken – that is that fiscal spending, import intensity and capital investments are decoupled from oil-driven volatility. As noted earlier, the significant growth of non-oil revenues, the ability to tap both domestic and foreign debt markets, and the scope for further public-asset sales all underline the existence of an enhanced policy toolkit to achieve this goal.

Over the coming decade, one element of Saudi Arabia's revenue-diversification strategy that we believe will come into sharper focus is the potential to draw on income-generating assets and investments. Clearly, the PIF's investments in the domestic non-oil economy, coupled with new tax and other revenue measures, have already boosted local-currency, non-oil revenues. As we described in the following section, this process should continue and accelerate, as many of the PIF's domestic investment projects and assets mature to the point where they become cash generative through profits, tax contributions or asset sales.

Moreover, as the rising external break-even oil price and the return to a current-account deficit in the first quarter of 2025 underline, growing existing and generating new sources of foreign-currency revenue should be a policy focus. As we discuss in the final section of the paper, there is scope for positioning the foreign assets of the PIF and other state- and quasi-state invest institutions for higher long-term capital growth and foreign-currency income. Increasing the asset base, total return and income generated on consolidated foreign assets held by state-backed investors in Saudi Arabia will make a massive contribution to enhanced resilience and reduced oil dependence over the coming decade.

Box 1: The Natural Evolution of SWF Mandates

In earlier work, we emphasized the importance of aligning the design and mandates of SWFs to the specific local conditions and requirements, which change over time (Clark and Monk, 2015; and Casady, Sharma and Monk, 2023). We discuss this in greater detail in reference to the PIF's natural evolution through 2040 in the final section of this paper.

For example, sovereign development funds (SDFs) can be effective policy instruments through which to catalyze domestic transformation when local capital markets are shallow or fiscal policy is constrained. However, the needs and objectives of a sovereign sponsor – and the optimal context-specific role of its investment vehicles – can and should change over time. The mandate of an SDF that was appropriately tasked with developing domestic capital markets should, therefore, change once those markets develop and mature.

This perspective suggests that sovereign funds are not static policy instruments. Rather, they are dynamic institutions that must evolve structurally and strategically. A sovereign fund that was initially created to fill a domestic investment gap may eventually find that gap narrowing, and its comparative advantage shifting toward managing maturing assets, proving sustainable income, or deploying capital internationally.

Such evolutions are evident in real-world examples. Singapore's Temasek Holdings began as a domestic restructuring vehicle for underperforming state-owned enterprises, but today operates more like a global holding company, with significant offshore investments. The Abu Dhabi Investment Authority and the Government Investment Corporation of Singapore have moved from being passive external manager allocators toward sophisticated in-house investors with intergenerational wealth-generation mandates. Since 2016, the Alaska Permanent Fund transitioned from its primary focus on accumulating savings from a share of oil revenues towards the provision of investment income that is now critical to the State's ability to finance its budget.

In Saudi Arabia, the PIF currently acts as an engine of domestic economic transformation and the primary implementation and execution authority for the public investment boom associated with Vision 2030. However, this role and mandate will undoubtedly evolve over the coming decade to include the stabilization of public finances through the generation of domestic and foreign income, alongside its possible stewardship of future structural transformations. These shifts do not reflect opportunistic or tactical adaptions, but rather strategic reorientations that require planning and alignment between the sovereign sponsor, the SWF's board and management, and the resources and skill sets available to them.

3.) Moving Towards Domestic Investment Income

The previous section described the impressive growth in the size and share of non-oil revenues. The largest contributor to non-oil revenues are taxes on goods and services, including the VAT and excise taxes. Non-tax revenues from the non-oil economy in the form of income (profits, fees and capital gains) from state-owned assets have also risen sharply, in line with the growth of the non-oil economy.

There is significant potential for domestic assets – particular those held and managed by the PIF – continue to provide a growing source of non-oil, domestic-currency income. Sovereign development funds, as sub-group of SWFs that target transformative domestic investment in line with the PIF's activities in the Saudi economy, are often significant source of fiscal income (Clark and Monk, 2015; and Casady, Sharma and Monk, 2023).

As noted earlier, the PIF's assets have grown to over $1.15 trillion, with around 80% of that asset base directed towards domestic investments. An increasing share of the firms and projects the PIF invested in over the past decade are now reaching a point of financial and commercial maturity where they will generate growing income in the form of tax revenue, dividends, rents and sales proceeds. These revenues will include both recurrent (taxes, dividends, fees and rents) and windfall revenues linked to initial public offerings and privatizations) and should contribute meaningfully to Saudi fiscal sustainability.

One particularly attractive model through which large state-backed investors have sought to monetize maturing assets on their balance sheet is the so-called "asset recycling" approach, pursued with notable success in Canada and Australia with extensive involvement of SWFs and pension and pension-reserve funds. There are different models and modalities within the asset-recycling approach (World Bank, 2023), but they all involve the monetization of maturing public investments to free up capital for new investments.

Asset recycling commonly applies to infrastructure investments, where assets or the revenue stream attached to them are sold once they are sufficiently matured and "derisked" to match the preferences and liability profiles of other investors. Examples include toll roads, public transit, ports, airports and public utilities, where the initial investor (in the Saudi case, the PIF) makes "greenfield" investments, involving high initial risk, capital costs and execution complexity.

As these infrastructure assets mature into "brownfield" assets – with lower capital needs, and predictable revenue streams from user fees and levies – the greenfield investor looks to sell either the asset itself or, more commonly, operating licenses and revenues rights to more risk-averse investors looking for steady cash flows to match their liabilities. In the Saudi case, the latter class of investor could include the General Organization for Social Insurance (GOSI), public and private pensions, endowments, and other domestic and foreign investors. Indeed, the anticipated shift towards domestic investments by GOSI and other government-sponsored funds will enable a consolidation of their surplus foreign assets under the management of SAMA, while also improving liquidity in domestic capital markets that will promote the domestic asset-recycling approach proposed for the PIF.

In contexts – my notably by pension funds in Canada and Australia – where it has been used most widely, asset recycling has often become the preferred form of "public-private partnership". In this model, the public fund typically makes initial greenfield investments, and private investors then buy brownfield assets. In cases where the original investor prefers to retain ownership of the asset, perhaps due to limited prospective outright buyers, the public investor can look to monetize the rights to revenues generated on infrastructure investment.

Selling maturing brownfield assets or attached derisked revenue streams then frees up capital that can be "recycled" into new greenfield investments, without the need for debt financing or new capital injections. Given the high initial capital cost, risk and operational complexities involved in successfully maturing these assets, the greenfield investor should generate an attractive return when engaging buyers. Done the right way, asset recycling brings several internally aligned benefits that are relevant to the PIF and the Saudi Arabian case:

- First, it delivers infrastructure that improves productivity and enables the growth of the non-oil economy. Asset recycling has been a cornerstone of government policies that have successfully delivered and financed critical infrastructure in Australia and Canada (while being increasingly pursued in New Zealand, the United States and several advanced Asian economies).

- Second, asset recycling frees up capital for new investments without the need for fresh capital injections or debt financing – a feature that is critical in reconciling the anticipated focus on income generation with the PIF's stated ambition of deploying up to $70 billion a year in new investments over the coming decade.

- Third, having the upfront objective of exiting greenfield investments through asset sales or operating rights would promote commercial rigor in selection and execution of initial investments by the PIF, thereby enhancing financial viability and performance.

- Fourth, asset recycling creates investable local-currency assets with predictable, derisked revenue streams that match the liability profiles of domestic investors, such as pensions, endowments and insurance funds – who are increasingly being allowed and encouraged to invest in a broader range of assets. Asset recycling can also be a tool for attracting Foreign Direct Investment and crowding-in private capital in complement to public investment.

Over the coming decade, policymakers need to find a sustainable and productive balance between various ways of monetizing the PIF's growing domestic assets. Sources of income on these assets include taxes, fees, rents, dividends, as well as asset sales, asset recycling and the distribution of realized and unrealized capital gains. Asset recycling is a particularly promising model to the extent that it makes to possible to reconcile the combined objectives of income generation, scaled-up domestic capital deployment of the PIF's domestic investments, and the diversification of Saudi institutional investor's domestic asset bases.

4.) Rebuilding Income-Generating Foreign Assets

In addition to domestic revenue, foreign-currency income is vital to Saudi Arabia given the need to pay for the import of intermediate goods – capital, machinery, raw materials, chemicals and professional services – associated with large-scale infrastructure investments and megaprojects under Vision 2030. Saudi Arabia also requires foreign income to pay for imported consumer goods, from cars to food, medical supplies, clothing, electrical and household appliances, and well as many essential services. Finally, maintaining external balance is important from the perspective of managing the exchange-rate regime, given the fixed exchange rate between the Saudi Riyal and US dollar.

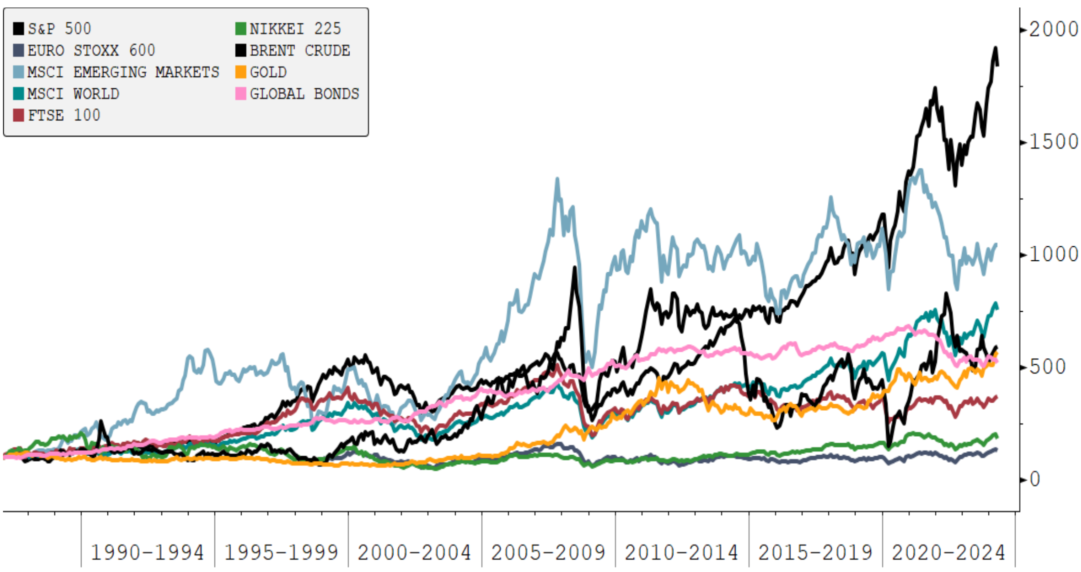
In this regards, financial income on foreign assets is a promising source of new foreign-currency revenues. An attractive feature of financial income is its lack of correlation of oil. The ability to access growing sources of non-oil revenue (debt, sales tax revenues, privatization proceeds etc.) – and the cost of doing so – is likely to be correlated with oil revenues. Investment income and distributions generated on foreign assets can be structured to uncorrelated, or even negatively correlated, with oil revenues. This underlines the value of further diversifying Saudi Arabia's portfolio of revenue sources by fully developing the potential for foreign investment income on various investment pools supported by the government. There are several potential sources of foreign assets to consider, starting with the evolution of the PIF and its portfolio over the coming decade.

The PIF's assets under management has grown significantly to over $1.15 trillion. Vision 2030 targets growth in the fund's total assets to $2 trillion by the end of the decade. While the PIF's current capital base is around 80% domestic, the growth envisaged under Vision 2030 would likely shift the focus to both a growing share of foreign investments and the ability to generate sustainable income on the portfolio (in both local and foreign currency).

A shift in focus towards income generation as the PIF matures would fit with the experience of several other SWFs, notably those of Norway, Alaska and Abu Dhabi, where distributions are either already play a critical role in fiscal sustainability or are being seriously considered (see Box 1 for discussion of how SWF mandates have evolved over time). Most SWFs transition towards performing an income-generating function only after several years in an "accumulation phase", during which they built their credibility, legitimacy and ultimately positioned to their portfolios and distribution policies to balance income and long-term growth.

Knut Kjaer, a former head of the Norwegian SWF, has instructively described the fundamental logic behind the as "an instrument for diversifying government wealth and transforming income from temporary petroleum resources into a permanent flow of investment income." (Kjaer, 2006). Historically, this transformation has been enormously successful, as the risk-adjusted return on financial assets has far exceeded that on oil (Figure 5). Based on historical capital market returns and the practices of income-generated institutional investors worldwide, portfolios with sufficient risk exposure – diversified across global listed equity, fixed income, private equity and credit, real estate and infrastructure – can reliably generate a 7-9% average annual nominal return (see Table 1).

Figure 5: Financial Assets Have Historically Outperformed Oil



Source: Bloomberg

Subtracting inflation from this nominal return yields an estimated average long-term annual real return, which can then form the basis of a sustainable distribution policy or spending rule that also "inflation protect" the real value of the portfolio's capital over time (given the anchoring of distributions on real, rather than nominal, returns).

Some simple calculations illustrate the potential impact of income and distributions based on a larger foreign-asset portfolio, managed by the PIF. Assume the Vision 2030 target of $2 trillion under management by the end of the decade is achieved, and that during this asset accumulation, the total share of foreign assets increases from the current roughly 20% to a new target allocation of 50% - a plausible and even conservative assumption, as it still permits an overall increase in domestically deployed PIF capital to around $1 trillion from current levels of around $800 to $900 billion.

Box 2: What is "permanent income"?

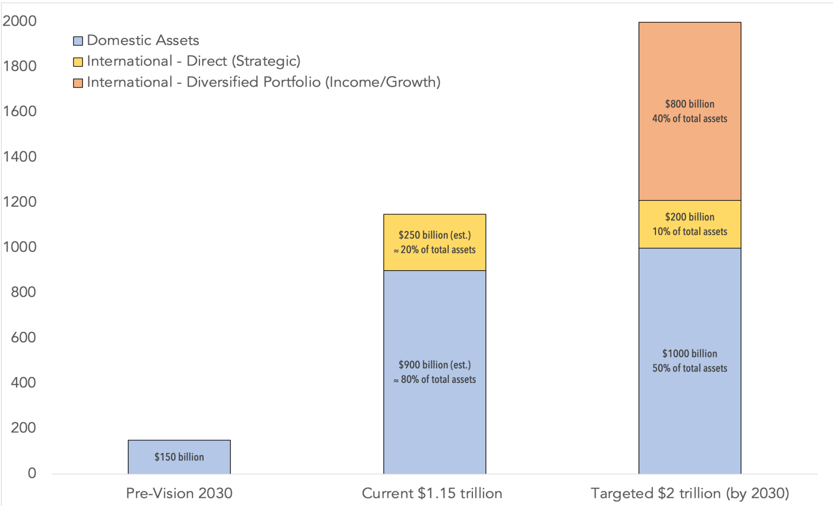
"Permanent income" on a financial portfolio – and in our general discussion of investment income in this paper – is not limited to interest, dividends and realized capital gains. Since the mid-1970s, income-producing endowments, foundations and SWFs have increasingly eschewed investing for a target level of reported income, moving instead towards investment models aimed at maximizing total return – and then harvesting the average long-term return or real growth of the portfolio. The result is kind of diversified portfolio reported in Table 1.

"Income" in a total-return portfolio can be drawn from all sources of total return, including unrealized capital gains. "Permanent" or "sustainable" income, then, is the real (net of inflation) return on all assets, regardless of the timing of cash flows and the realization of capital gains.

This allows the long-term orientated, income-producing investor to allocate to whatever combination of assets and asset classes deemed to maximize risk-adjusted total returns. The constraint then becomes the specified risk tolerance or risk budget – rather than the need to generate or target reported income from interest, rents, dividends and realized capital gains.

This would result in a foreign-asset portfolio of some $1 trillion for the PIF, assuming with a total asset base of $2 trillion. Much of the growth in foreign assets can be directed towards building a growth-orientated, diversified global portfolio of the kinds reported in Table 1. If 80% of the foreign-asset portfolio is allocated to this kind of diversified global portfolio, and the remaining 20% of assets remains in line with the current approach of direct, concentrated positions in strategic assets the past, the PIF's current and proposed future allocation follows the depiction in Figure 6.

Figure 6: Past, Present and Proposed Future Composition of the PIF Portfolio



Applying a sustainable spending policy of 5% – which is compatible with the spending policies of income-producing SWFs and endowments, as per Table 1 – would result in sustainable annual real distribution of $50 billion. Several observations can be made about this sustainable distribution estimate. First, the $50 billion number is a *real* (inflation-adjusted) number: in practice, as the nominal value of the foreign portfolio would rise with inflation (given that only real or above-inflation returns are spent), the *nominal* distribution or spending amount would also adjust upwards with inflation.

Second, this distribution and real level of spending can be maintained in perpetuity, as it will not deplete the portfolio of assets on which it is based, but rather preserve it (in real terms too). The protection of real capital is why SWFs and endowments with real-return spending policies are called "permanent funds", providing "permanent income" (see Box 2 and Table 1). Third, the calculation pertains only to foreign assets (and hence foreign-currency income) and would in practice be complemented by additional distributions in Saudi Riyal derived from domestic investments, as per the discussion in preceding section.

Finally, the $50 billion level of permanent real income on a portfolio of $1000 billion in foreign assets is comparable to the average level of debt issuance conducted in recent years – that is, the level of foreign income that can be sustainably distributed from the portfolio would negate the need for level of borrowing observed in recent years. Pursuing fiscal policies that stabilize general government at current levels and target a sufficient degree of asset accumulation to facilitate income distribution beyond 2030 is also key to limiting the rapid growth of public debt. While Saudi Arabia has prudently used its capacity to borrow over the past decade, long-term debt-to-GDP and debt-to-revenue ratios are more constrained for resource-dependent economies than for advanced industrialized economies.

Table 1: Income-Producing Investor Asset Allocation, Returns and Distributions

	Income-producing sovereign wealth funds				**Income-producing endowments**		
Asset Allocation (% of portfolio)	Alaska	New Mexico	Norway	Singapore (GIC)	Harvard	Yale	Stanford
Public Equity	34	40	71	30	11	14	24
Fixed Income, Cash & Credit	29	21	27	40	8	14	9
Hedge Funds	7	12	-	-	31	21,5	19
Private Equity	16	15	-	17	39	38	38
Real Estate	10	12	2	13	5	8,5	10
Other	4	-	-	-	6	4	-
Average annual return (nominal)	7.7%	7.6%	5% to 7%	2.5% to 5.5%	11%	12%	9.4%
Annual spending rate	5% to 5.25%	6.25%	Up to 3%	3% (est.)	4.2% to 6.1%	5.25%	5%

Source: public disclosures, Annual Reports

The numbers outlined above – specially the targeted growth in total assets managed by PIF to $2 trillion, and within that, the build-up of a $800 billion foreign-asset portfolio – remains aspirational, as framed by Vision 2030. Several macroeconomic policies and structural reforms can make these aspirations a reality.

First, further strengthening rule-based, counter-cyclical fiscal policy initiated by the post-2014 adjustment to lower oil prices will ensure that domestic spending and investment remains anchored around recent levels, irrespective of the medium-term trajectory in oil revenues. Under counter-cyclical fiscal policy, future oil-revenue windfalls would not result in unplanned, procyclical increases in domestic spending and investment, but rather towards rebuilding asset buffers, including foreign assets (Alsweilem, 2015).

Second, the current focus on enhanced efficiency in government spending and public investment – underlined by the upgrading to a full government-agency status of the Expenditure Efficiency and Projects Authority in 2021 – can also consolidate expenditure growth and free up considerable resources for allocating to income-generating investments (World Bank, 2024; International Monetary Fund, 2024 and KPMG, 2025).

Third, consideration should be given to increasing the PIF's ownership share of Saudi Aramco. Current oil prices may not permit this in the near term, as it would reduce the level of oil-related revenues flowing directly towards the Ministry of Finance for budgetary financing. However, upward oil-price and -revenue movements – and the anticipated sustained growth in non-oil revenues (Saudi Ministry of Finance, 2024) – would create an opportunity to increase the PIF's ownership share in Aramco from the current 16% to 20% and eventually to 25% by 2030 and beyond. It is increasingly clear that Saudi Arabia will remain a major oil exporter – and the world's leading low-cost oil producer – for years to come, despite the global energy transition.

This creates a multi-decade window for increasing the PIF's share of ownership in Aramco, which would enable a larger portion of the PIF's inflows to be directed toward investments in foreign income-generating assets, without compromising its domestic- investment and capital deployment. This will position the PIF as a custodian of an increasing share of Saudi oil revenues, while still directing 75% of oil revenues towards the budget, even as non-oil revenues grow. In essence, increasing the PIF's share in Aramco would accelerate the diversification of oil wealth and income into financial wealth and income, as described earlier.

Finally, in a recent Stanford University working paper, Alsweilem *et al.* (2024) argued that there are significant opportunities to consolidate the surplus foreign assets currently held by several government-sponsored funds. Reasonable estimates suggest that GOSI and other government-sponsored funds have up to $250 billion in combined foreign assets.

These assets have been invested offshore due to an historic lack of investment opportunities and liquid assets in the domestic Saudi market. However, the rapid expansion of investment and economic activity in recent years, and opportunities stemming from deeper capital and increased government borrowing requirements markets in Saudi Arabia now provides an opportunity for these funds to rebalance their portfolios towards domestic assets that better match their liability and maturity profiles. As discussed earlier, a shift towards a larger share of domestic investments by GOSI and other government-sponsored funds by 2030 will also improve liquidity in domestic capital markets, which will promote the domestic asset-recycling approach proposed for the PIF.

Consolidating the management of these excess foreign assets under SAMA – which already provides investment income to the Ministry based on the real return generated on the foreign-exchange reserves – would significantly rebuild the foreign assets of the Central Government, while improving the asset-liability matching of domestic funds. The asset swap will allow SAMA to invest surplus foreign assets optimally, enabling enhanced risk-adjusted returns and long-term capital growth.

5.) An Emerging PIF Model of Institutional Investment?

It is common, indeed, almost inevitable, for large, long-term investment institutions to shift their investment strategy over time (see Box 1). These transitions may be prompted by structural changes in the global economy, evolving beneficiary needs, regulatory shifts, or the emergence of new asset classes and technologies. In most cases, however, strategy changes cannot be delivered effectively within the confines of an unchanged organization. Executing a new strategy requires adapting governance, processes, staffing, culture, and technology, effectively re-engineering the institution to align with its revised objectives.

The historical evolution of leading asset owners illustrates this interdependence between strategy and organizational form. The "Yale Model" emerged alongside deliberate governance and staffing reforms that enabled greater allocations to illiquid alternatives. The "Canadian Model" required large public pensions to build in-house direct investment teams and robust governance structures to act as sophisticated market participants. The "Norway Model" paired passive, global diversification with one of the most transparent governance frameworks in the world. In each case, the defining features of the model were not only portfolio choices, but also the organizational architecture required to deliver them.

Despite this pattern, the academic literature offers little guidance for funds undergoing such transformations. Dominant investment theories, notably Modern Portfolio Theory (MPT), remain focused on portfolio optimization under assumptions of efficient markets and rational actors, but provide no conceptual apparatus for re-aligning governance, culture and organizational capabilities to match a revised investment mission. As Rook *et a*l. (2023) note, this absence of theory forces asset owners to rely on a "role model" approach – borrowing elements from other funds' operating models – rather than drawing on a systematic framework for institutional change.

One promising conceptual tool for bridging this gap is the idea of Investor Identity (Monk and Rook, 2023). Investor identity comprises the distinctive characteristics, beliefs, and comparative advantages that guide how an institution engages with markets. It is shaped by origin, mandate, governance structure, accumulated capabilities, and relationships, and it links present realities to future potential. A clearly articulated identity helps investors determine how to evolve without undermining core strengths, focusing strategy on authentic advantages that competitors cannot easily replicate.

Comparative advantages can be divided into two categories. Categorical advantages are inherent to the investor's origin, sponsor, geography, or mandate – traits "in the DNA" of the fund. Examples include the stable liabilities and extended horizons of defined-benefit pensions, the sovereign immunity enjoyed by many sovereign wealth funds, or the privileged networks accessible to university endowments. By contrast, cultivated advantages are deliberately built over time, often leveraging categorical advantages as a foundation. These may include proprietary data systems, specialized governance processes, reputational niches in certain asset classes, or deep sectoral expertise. The world's best-performing investors intentionally combine categorical and cultivated advantages in ways that differentiate their market approach and enable sustained outperformance. Misalignment between strategy and these advantages, by contrast, leads to organizational friction, reduced agility, and underperformance.

For the PIF, the next decade offers an opportunity to make this alignment explicit. We suggest that the PIF should revisit its operating model and investor identity to clarify the fund's categorical and cultivated comparative advantages, while acknowledging the gaps that could hinder future success. This organizational realignment would not be a purely internal exercise: by connecting structure, governance, culture, and capabilities to strategy, PIF could energize its culture and strengthen its global performance. With sufficient clarity, the coming decade could see the emergence of a distinctive "Saudi Model" of investing; one that integrates local additionality with global performance excellence, and stands alongside the Canadian, Yale, and Norwegian models as a recognized reference point for peers.

In summary, strategic portfolio transitions in large, long-term investors cannot be separated from organizational transformation. The absence of robust academic frameworks in this domain has left funds to learn primarily through trial and error, borrowing selectively from existing models. By applying an investor identity lens, and by systematically defining and aligning categorical and cultivated advantages with strategic goals, funds such as PIF can navigate transformation intentionally, building not just new portfolios, but the organizational capacity to sustain them over decades.

Conclusion

In 2016, the Kingdom of Saudi Arabia launched Vision 2030 to aggressively pursue economic diversification, alongside broader cultural and social reforms. Vision 2030 and the adjustment to lower oil revenues following the collapse in oil prices in late 2014 sparked a positive structural shift from past fiscal and oil-revenue management practices. Most notably, the government has prioritized long-term investment over procyclical, short-term spending. The period-defining structural break in the Saudi economy is that oil revenues are being now channeled into transformational domestic investments, representing a quintessential Big Push for diversification away from oil.

As attention now turns to sustaining this reform momentum beyond 2030, we believe that the income-generating potential of Saudi Arabia's vast domestic and global financial assets will come into sharper focus. With regards to local-currency income, an increasing share of the firms and projects the PIF invested in over the past decade are reaching a point of financial and commercial maturity where they will generate growing income in the form of tax revenue, dividends, rents and sales proceeds. Asset recycling is proposed as a model that could reconcile the combined objectives of income generation, scaled-up domestic capital deployment of the PIF's domestic investments, and the diversification of Saudi institutional investor's domestic asset bases.

Additionally, income on a diversified portfolio of foreign assets can be a sustainable source of foreign-currency revenue alongside oil. Importantly, foreign-currency investment income can be structured to be uncorrelated, or even negatively correlated, with oil revenues and therefore provide resilience to negative oil shocks. We propose several mechanisms and policies that would promote the growth of foreign-asset pools over the coming decade.

Further diversifying the portfolio of revenues sources in this manner will help sustained Saudi Arabia's Big Push for diversification beyond 2030. This paper outlines several macroeconomic policies and institutional reforms that can be implemented over the medium term to ensure that these goals can be achieved. If the policies outlined in the paper are successfully implemented, the coming decade could see the emergence of a distinctive "Saudi Model" of investing; one that integrates local additionality with global performance excellence, and stands alongside the Canadian, Yale, and Norwegian models as a recognized reference point for peers.

References

Alsweilem, K. (2015). “A framework for more stable and efficient fiscal policy in Saudi Arabia: the case for a sovereign wealth fund and the diversification of sources of income,” Discussion Paper, Belfer Center and the CID, Harvard Kennedy School, April 2015.

Alsweilem, K., Lepech, M., Monk, A. and Rietveld, M. (2024). “Saudi Arabia: From The Big Push To The Long Push Building Resilience Beyond Vision 2030”, Center for Sustainable Development & Global Competitiveness and the Stanford Research Initiative on Long-Term Investing, Stanford University.

Casady, C., Sharma, R. and Monk, A. (2023). “The Keys to Sovereign Development Fund Success: Innovation, Collaboration & Commercial Focus,” *The Journal of Alternative Investments*, Winter 2024, 26 (3) 8-22.

Clark, P. and Monk, A. (2015). “Sovereign Development Funds: Designing High-Performance, Strategic Investment Institutions”. Available at SSRN: https://ssrn.com/abstract=2667974

International Monetary Fund. (2024). “Saudi Arabia: 2024 Article IV Consultation-Staff Report,” September 2024, Washington D.C.

Kjaer, K. (2006). “From Oil to Equities,” speech at the Norwegian Polytechnic Society, 2 November 2006.

KPMG. (2025). “Spending efficiency in Saudi Arabia’s public sector: Cultivating an investment mindset,” February 2025, Available at: https://assets.kpmg.com/content/dam/kpmg/sa/pdf/2025/spending-efficiency.pdf

Monk, A. and Rook, D. (2023). “The ‘Investor Identity’: The Ultimate Driver of Returns,”. Available at SSRN: https://ssrn.com/abstract=4324537

Rook, D., Golosovker, D. and Monk, A. (2023). “Submergence = Drawdown Plus Recovery,”. Available at SSRN: https://ssrn.com/abstract=4346463

Saudi Ministry of Finance. (2024). “Budget Statement – FY 2025”, Available online at: https://www.mof.gov.sa/en/budget/2025/Documents/Bud-E%202025-251124-V8-Fin.pdf

World Bank. (2023). “Guidelines for Implementing Asset Recycling Transactions”, June 2023, Available online at: https://ppp.worldbank.org/sites/default/files/2023-09/Asset%20Recycling%20Guidelines%20Final%20August2023%20Publication.pdf

World Bank. (2024). “Harnessing the Benefits of Public Investment”, Global Economic Prospects, Chapter 3, June 2024, Available online at: https://openknowledge.worldbank.org/server/api/core/bitstreams/41681424-4459-4959-84d5-63709dee74dc/content

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