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PACIFIC FINANCIAL TECHNICAL ASSISTANCE CENTRE

Cook Islands

Recommendations on the Design of a Sovereign Wealth Fund and a Loan Repayment Fund

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Aide-Mémoire

Contents **Page**

ABBREVIATIONS

ADB	Asian Development Bank
APD	Asian Pacific Division
CIIC	Cook Islands Investment Corporation
EEZ	Exclusive Economic Zone
FSC	Financial Supervisory Commission
FAD	Fiscal Affairs Department
FSDA	Financial Services Development Authority
GDP	Gross Domestic Product
GFS	Government Financial Statistics
IMF	International Monetary Fund
IWG	International Working Group of Sovereign Wealth Funds
IPSAS	International Public Sector Accounting Standards
MFEM	Ministry of Finance and Economic Management
NZ	New Zealand
PFTAC	Public Financial Technical Assistance Center
SOEs	State Owned Enterprises
SWF	Sovereign Wealth Fund
TSA	Treasury Single Account
WB	World Bank

PREFACE

At the request of the Secretary of Finance of the Cook Islands, the Public Financial Technical Assistance Centre of the International Monetary Fund arranged a technical assistance mission to visit Rarotonga from June 2 to June 12, 2012 to provide advice on design options for a Sovereign Wealth Fund and a Loan Repayment Fund. The mission was staffed by Dick Emery (IMF-funded consultant), formerly the senior civil servant of the United States Office of Management and Budget, and an advisor with experience in a number of developing nations.

Mr. Emery held frank and productive meetings with the Financial Secretary of the Minister of Finance and Economic Management (MFEM), Richard Neves, and with government leaders including Mark Brown, Minister of Finance and Economic Management, Wilkie Rasmussen, the Leader of the Opposition, and with the Solicitor General, Kim Saunders. In addition, he met with numerous officials of various offices of the MFEM, the Deep Sea Mining Authority, the Office of the Prime Minister, government oversight bodies, representatives of the business and economic interests in the Cook Islands, the Cook Islands National Superannuation Fund, and the New Zealand High Commissioner. A list of interviews and people contacted appears in section 5 of this memorandum.

Mr. Emery wants to express his appreciation to the staff of the MFEM for the warm welcome extended and for being available, at short notice, for extensive discussions on fiscal and budgetary processes. Special thanks is due to Etuatina Drollet (Tina), Executive Assistant to the Financial Secretary, who arranged meetings in the midst of the annual budget rollout, and to Ngametua College (Nena), the MFEM debt management specialist, who served as the guide to meetings all over Avarua and generally kept meetings on schedule. Mr. Emery would also like to thank Jenner Davis and Jo Neves for their hospitality and for providing background on the culture and traditions of the Cook Islands.

I. SUMMARY OF RECOMMENDATIONS

This summary provides my overall recommendations for the establishment of a Sovereign Wealth Fund (SWF) for deep-sea mining revenues and a Loan Repayment Fund (LRF) by the Cook Islands Government. These proposals are elaborated further, together with the rationale for the proposals, alternatives considered and some additional detail in the section of the paper on Explanation of Recommendations. The principle recommendations were discussed during the consultations in the Cook Islands. Most of the individuals consulted supported the creation of both funds, and some provided suggestions for strengthening the proposals.

Sovereign Wealth Fund for the Cook Islands:

1. **Policy objectives should be weighed in all design choices.** The policy objectives described by the Cook Islands are to:
   - protect in perpetuity government revenues resulting from seabed mineral mining,
   - stabilize fiscal revenues from fluctuations in revenues from mineral mining, and
   - enhance returns on reserves.
2. **Legislation should be structured in the most rigorous manner possible to protect the long-term stability for the fund and to avoid short- term diversion of fund resources.** I recommend either:
   - amending the constitution to create a mandate for a fund to be held in perpetuity together with implementing legislation, or
   - the use of a supermajority constraint on spending resources from the fund.
3. **Clear and consistent principles should be established for allocating revenues to the fund and for spending from the fund.** All government revenues resulting from seabed mineral mining should be deposited in the fund. I recommend that spending from the fund be adjusted depending upon the size of the fund. Initially annual appropriations of a fixed amount, could be appropriated for investment expenditures: infrastructure, education, economic growth expenditures, etc. Once the fund balances begin to grow to a more significant size, appropriations should be limited to the return on investment, or some portion of the return on investment.
4. **The Fund's principal should be invested in international financial assets to avoid distorting the local economy, in a diversified portfolio of financial instruments that protects the fund principal over the long term with minimal risk.** Initial investments should be predominantly in AAA bonds or equivalent, with limited investment in potentially higher return, but more risky assets. The initial asset allocation could be enacted in law or established as a function of an advisory body, but should be reviewed on an ongoing basis with recommendations to the Government for revisions in the asset allocation to coincide with the election cycle.
5. **The Minister of Finance and Economic Management should be responsible for the overall management of the fund on behalf of the people of the Cook Islands, supported by an oversight board.** Investment advice and investment

management should be functions contracted to professional investment managers through competitive tender. Legislation establishing the fund should require the specification of a code of conduct to be applied to all participants in the management and oversight of the fund.

6. **All transactions of the fund and the fund's financial performance should be transparent, including: fund operations, asset holdings, and decision-making.** Revenues and spending of the fund should be controlled through the budget. The fund's finances should be included in the Medium Term Financial Update. There should be an annual report on the performance of the fund and its transactions should be included in the Budget, Quarterly and Annual Reports, and Financial Statements of Government. The fund should be subject to annual review be the National Audit Office and subject to periodic independent audit. Finally, the Parliament should provide oversight through review of reporting, operation and performance of the fund.

Loan Repayment Fund for the Cook Islands:

1. **Establishment of loan repayment fund - Legislation should be enacted to establish a loan repayment fund for the Cook Islands.** The fund would be legislated to prevent the use of funds provided for any purpose other than debt repayment.

2. **Size and rationale for deposits - Annual contributions to the loan fund would be based on the debt service requirements for the year**. Calculation of the annual contribution should reflect the amortization of outstanding debt, adjustments to reflect new borrowing and the adequacy of prior year-end balances. To the extent that debt is denominated in foreign currency, a reserve for currency risk should also be included in the calculation. Both the debt service requirements and scheduled repayments of debt guaranteed for State Owned Enterprises (SOEs) should be included in the calculation of the annual contribution.

3. **Advanced assessment of debt proposals - An assessment on amortization of new loan proposals and their impact on the loan fund would be required in advance of new borrowing**. The assessment would include the amortization schedule for the new loan and its impact on debt service and aggregate debt burden over the life of the debt. A public report should be required on the debt analysis in advance of any borrowing.

4. **Source of Funds - Permanent indefinite appropriation should be provided equal to the estimated annual contribution.** The appropriation should be recognized as a mandatory expenditure, given precedence over all current appropriations. The appropriation should be deposited in the fund and withdrawn as debt payments became due.

5. **Investment of fund principle - Fund principal should be invested in Cook Islands commercial banks.** Investment liquidity should match repayment schedule.

6. **Limitations / Authority to draw funds for the reserve - Authority to draw funds from the reserve should be limited to the requirement to redeem scheduled debt**. The Cook Islands could consider authorizing the Minister of Finance approval for "temporary" use of funds for a liquidity crisis. It would be essential to define liquidity crisis clearly. If this proposal is included in the proposal, there should be a requirement to restore the fund balance within a specified time frame, e.g. by the end of the fiscal year, or within 12 months.

II. BACKGROUND FOR PROPOSALS

Cook Islands' Deep Sea Mineral Mining Fund

The Government of the Cook Islands is considering the establishment of a fund to capture the revenues associated with deep seabed mineral mining. The fund would capture all governmental revenues from seabed mining including exploratory licenses, royalties and taxes. Establishment of the fund would require the development of a policy on investment of fund assets to insure relatively safe and reasonable long-term returns. Rules would need to be developed to guide calculation of annual transfers from the fund to the budget such that the transfers could be maintained in perpetuity.

Exploration of the seabed had been taking place for almost 40 years. Exploratory studies suggest that revenues could become significant in the future.[1] Deposits of manganese nodules have been mapped and evaluated in terms of their mineral composition. Much of the deposits within the Cook Islands EEZ are found at depths of approximately 5,000 meters. Technological advances may make mining at these depths practical within the next several years.

The creation of a SWF to manage deep seabed mining minerals is one element of a broad strategy of preparation for seabed mining. In 2009, the Cook Islands developed and passed the Seabed Minerals Act of 2009, creating the Cook Islands Minerals Authority and establishing a regulatory framework for seabed mining in the Cook Islands. In August of 2012, the Cook Islands will establish a marine park to preserve around 1 million square kilometers of the environment in anticipation of deep sea mining. The Government is considering enactment a law on mining taxation based on the IMF funded Mullins report. [2]The creation of the SWF, regulatory legislation, environmental provisions and tax law are all part of governmental infrastructure for deep sea mining in the Cook Islands. Paul Lynch, a senior advisor to the Cook Islands Minister for Minerals and Natural Resources produced a paper describing these Government efforts.[3]

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[1] Kingan, S.G. 1998, "Manganese nodules of the Cook Islands". SOPAC Miscellaneous Report 295. SOPAC Secretariat. Iv, 24 pages. September 1998. ISBN: 982-207-008-x

[2] Mullins, Peter, July 2011, "Cook Islands: Mining Taxation Framework", PFTAC, IMF.

[3] Lynch, Paul E., October 2011, "Toward the Development of a National Regulatory Framework for Deep Sea Mining in the Cook Islands".

Loan Repayment Fund for the Cook Islands

The Cook Islands is considering establishing a fund in law to regularize debt repayment. Resources allocated to the fund would be restricted to be used only for debt repayment. Legislation creating the fund would regulate investment of fund principal. Annual contributions to the fund would be based on the amortization of outstanding debt and an assessment of the adequacy of year-end balances.

MFEM established a separate "Fund" for debt repayments in the 1990s to receive payments from State Owned Enterprises to government and make payments on government guaranteed loans. The fund's balances were diverted by the Government from the loan reserve to cover other budget costs. The borrowing from the fund has since been restored so that the fund is now fully funded. This "Fund" had no legislative framework that have would prevented it from being utilized to fund other types of expenditure.

As reported in the current Cook Islands Budget, debt outstanding as of 30 June 2012 is $93.6 million, down from $115 million in 2010. Annual debt service is 4.4% of expenditures. Debt is estimated to be 18.3% of GDP in 2012/2013. While the amount of debt outstanding and debt service burden are reasonable, proposals for new borrowing could result in a significant expansion of debt and debt service. Two major infrastructure projects are being considered: a loan from China to rebuild the water infrastructure in Rarotonga; and the possibility of substantial investment in renewable energy, also possibly donor financed.

Government debt obligations are legally binding. The Government proposal to establish a loan repayment fund would insure that resources are available to pay all debts when due.

III. EXPLANATION OF RECOMMENDATIONS

The Government of the Cook Islands is considering the establishment of two funds to strengthen their public financial management. Other than the common focus of public finance the two funds would be distinct, with no overlap in purpose or operations. For the purpose of this explanation, I will treat the two funds separately.

A. Sovereign Wealth Fund for the Cook Islands:

The IMF Working Group of Sovereign Wealth Funds defines SWFs to be special purpose investment funds or arrangements, owned by general government for macroeconomic purposes. SWFs hold, manage or administer assets to achieve financial objectives and to employ a set of investment strategies, which include investing in foreign financial assets. The SWFs are commonly established out of balance of payments surpluses, official foreign currency operations, the proceeds of privatizations, fiscal surpluses, and/or receipts resulting from commodity exports. The Sovereign Wealth Fund News identifies 68 SWFs across the world. The largest are Abu Dhabi's Investment Authority with assets of $627 billion and Norway's Government Pension Fund with assets of $570 billon.[4] Based on a survey from twenty members of the International Working Group on Sovereign Wealth Funds, 65% of the funds have been established to produce long-term savings and stabilization.[5]

1. Policy objectives

Policy objectives should be weighed in all design choices. The policy objectives stated by the Cook Islands are to protect government revenues resulting from seabed mineral mining in perpetuity, to stabilize fiscal revenues from fluctuations in revenues from mineral mining, and to enhancing returns on reserves.

There appears to be a consensus among Cook Islands Government and business leaders that protecting government revenues resulting from seabed mineral mining in perpetuity is the primary objective of creating a SWF for seabed mining revenues. Mark Brown, the Minister of MFEM described the proposal in his rollout of the 2012 – 2013 Budget. The Opposition leader, the Deputy Prime Minister (as reported by his staff), and the prior government all supported the creation of a SWF for this purpose. Protecting seabed wealth was generally viewed as a non-partisan issue. A key issue will be how to ensure the continuity of the fund into the future and to avoid the temptation to use the resources for current budget needs.

Stabilizing fiscal revenues from fluctuations in revenues from seabed mineral mining and enhancing returns on reserves are secondary objectives of the proposal. Preventing fiscal disruption will be a factor that will need to be addressed in

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[4] Sovereign Wealth Funds News, http://www.sovereignweathfundnews.com/funds.php, http://www.sovereignwealthfundnews.com/ranking.php.

[5] Secretariat in Collaboration with Members of the IWG, September 15, 2008, "Sovereign Wealth Funds, Current Institutional and Operational Practices", IWG.

designing a strategy for spending from the SWF. Decisions about investment strategy will need to weigh tradeoffs between preserving the integrity of the fund, the acceptable level of risk and the rate of return on its investment.

Experience of the Pacific Island Countries with SWF's has produced both successes and failures, demonstrating the importance of having a well structured, well managed fund. Kiribati, Timor-Leste, Papua New Guinea, and Nauru have SWFs established for non-renewable resources. Tonga and Tuvalu have funds established from revenue windfalls and Tuvalu, Marshall Islands, Micronesia and Palau from donor contributions. An IMF study on the "Sovereign Wealth Funds in the Pacific Islands: Macro-Fiscal Linkages" provides insights into the successes and failures of these funds. The failures of the funds in Kiribati and PNG provide some lessons on how important the design of the investment strategy can be. The Timor-Leste Petroleum Fund provides a model for effective design.[6]

2. **Legislative approach**

Legislation should be structured in the most rigorous manner possible to protect the long-term stability for the fund and to avoid short- term diversion of fund resources. I recommend either amending the constitution to create a mandate for a fund to be held in perpetuity together with implementing legislation or the use of a supermajority constraint on spending resources from the fund.

A key legislative question is how to protect a fund in perpetuity from short term spending pressure. Some SWFs have the protection of being established by constitutional authority. The Cook Islands Constitution could mandate that a fund be established to protect the revenue from seabed mining in perpetuity; legislation could then be enacted to establish how such a fund would work. Kim Saunders, the Solicitor General, raised the possibility of using an "entrenched provision". These provisions are constitutional restrictions that make amendments either more difficult or impossible.[7] Another approach would be to enact a supermajority requirement in legislation. Mark Brown suggested having two tests: a two-thirds majority vote and a majority of the opposition party. Ultimately, the fund will be protected, if and only if, there is continuing public and political support for preserving the national wealth. This will be more likely if the restrictions on the use of the fund are clearly defined, and any authority to spend is straightforward and easy to understand.

A second legislative issue is raised by overlap, duplication or conflict with existing law. A cursory review raises several potential questions. A more careful review will be needed and issues will need to be resolved:

[6] Borgne, Eric Le, and Medas, Paulo, 2007, "Sovereign Wealth Funds in the Pacific Island Countries: Macro-Fiscal Linkages", IMF Working Paper.

[7] Entrenched clause, http://en.wikipedia.org/wiki/Entrenched_clause.

- Seabed Minerals legislation – Chapter 9 – "Financial Provisions" establishes authority over royalties, fees and appropriations of royalty payments. These provisions would need to be reconciled with legislation creating a SWF.
- Environmental Protection Act – Part 9, ENVIRONMENT PROTECTION FUND provides authority levies and taxes to be paid into the Environment Protection Fund, and PART 10, FINANCIAL PROVISIONS, section 62 (b) provides that all moneys received by way of fees, fines, rents, royalties or other income…and in section 63 for the establishment of accounts. I have not reviewed either provision closely enough to fully understand the potential conflict. It will need to be reconciled with SWF legislation.
- Cook Islands Government Act 1969 and Cook Islands Investment Corporation Act 1998 – section 2 (c) "…rights to minerals and natural resources and any fishery or fishery waters….". This language appears to conflict with the Deep Seabed legislation and would almost certainly conflict with the creation of a SWF.

This may not be a complete list of potential conflicts. It simply reflects legislation that was brought up during the consultation in Rarotonga. SWF legislation will need to resolve such conflicts.

3. **Operational objectives**

Clear and consistent principles should be established for allocating revenues to the fund and for spending from the fund. Decisions about depositing revenues into the fund and distribution or spending from the fund must balance the goal of preserving the nation's wealth into the future and the more immediate need for investment in the country. The preliminary proposal from the Government would require all revenues from seabed mining to be deposited into the SWF and spending to be limited to return on investment. Based on discussion with political leaders, they seemed to recognize that there will be political pressure to spend from the fund. There is no "right" answer on how the fund should be used. The choice between current consumption and investment in the future is ultimately a political choice.

Both spending and investment decisions will be influenced by the size of the fund. Initially, the fund's income may be limited to exploratory licenses. If the fund has $25 million to $50 million and is invested in US Treasuries or equally secure financial assets, the return would be about $400 thousand to $800 thousand a year at the current rate of 1.62% for 10-year bonds. At these low levels of return it may be difficult to constrain the appetite for spending to just return on investment. Assuming the industry had matured, the fund could contain much larger amounts. At that point limiting investment to return on investment would be much easier to justify. It may be appropriate to change the spending policy of the fund overtime, as the fund changes in scope and matures.

There is a great deal of uncertainty in estimating the potential size of deep sea mining revenues and timing for exploration and production of the mineral deposits. Peter Mullins, in his July 2011 report "Cook Islands, Mining Tax Framework" suggested that it could be ten years before commercial mining could begin in the Cook Islands. He cited the Commonwealth Secretariat's more optimistic scheduling assumptions that would have exploration applications beginning in 2013, and commercialization being developed from 2015-2021. Revenues will vary not only because of schedule, but also due to mineral prices, technology changes and tax policy.

The appendices to this report present tables showing the implications of five different approaches or principles for transferring funds from SWF. In order to consider alternative approaches to use of the SWF for budget spending I have made a number of simplifying assumptions. Production and cost assumptions are taken from the Mine Example in the Commonwealth Secretariat paper "Deep Seabed Minerals Fiscal Regime Analysis Summary" and are used for all options. These assumptions involve US$980 million in production over 25 years, with US$446 in exploration, development and production costs. Exploration would take three years; production revenues would not begin until the sixth year. Revenue to the government would be limited to a 28% corporate income tax. Peter Mullins has recommended royalties of 2 – 4 %, corporate income tax of 20% for resident companies and 28% for non-resident companies, and a resource rent tax regime that would tax net income from 20-35%. I have not addressed tax loss carry forward of development expenses. Actual revenues would vary first and foremost due to production, but most tax regimes would produce more revenue to the government than the 28% assumption.

The results of the alternative budget transfer approaches are shown in the table below. Under all options transfers to the budget would begin once the government begins to receive revenue. Each alternative approach was presented assuming both a 4% return on investments and a 2% return. The following alternatives are presented:

- <u>Fixed $2 million transfer to budget annually</u> – Under this option transfers would exceed return on investment for 4 years at a 4% rate of return and for 8 years at a 2% rate of return. At a 4% rate of return the fund balance would grow by almost $50 million over 20 years of production.
- <u>One half return on investment transferred to budget</u> – Under this option average annual transfers would be $2.4 million at 4% rate of return and $1.1 million at a 2% rate of return.
- <u>Increasing amount transferred to the budget</u> – For this option I assumed transfers would be $1.0 million for the first 5 years, $1.5 million for the second 5 years, $2.0 million for the third 5 years, and $2.5 million for the fourth five years. This option results in the largest fund balance assuming 4% rate of return
- <u>All interest earnings transferred to the budget</u> – The annual transfer begins at $0.2 million and grows to $6.0 million after 14 years, at a 4% rate of return, transfers would be one half at 2% rate of return. Under this option, transfers would continue at $6.0 indefinitely. The fund balance would not grow, since all interest was being transferred to the budget.
- <u>Mixed approach</u> – Transfers would be $2.0 million, until the return on investment exceeded that amount. Transfers would equal investment returns once returns exceeded $2 million. At a 4% rate of return, transfers would begin to exceed $2 million after five years: at 2% after nine years. Transfers would reduce the fund principal by $5 million at 4% rate of return and by $10 million at a 2% rate of return.

Comparison of Alternative Budget Transfer Assumptions

	4% Return on Investment		2% Return on Investment	
Transfer option:	**Average annual transfer**	**Fund Balance**	**Average annual transfer**	**Fund Balance**
Fixed $2 million	2.0	202.1	2.0	150.4
One-half return	2.4	199.0	1.1	173.5
Increasing amount	1.8	213.2	1.8	158.0
All interest earnings	4.2	151.2	2.1	151.2
Mixed approach	4.2	146.3	2.4	141.9

I support the government's proposal to deposit all mineral revenues in the fund, and recommend limiting authority to spend to the lowest politically acceptable level. The "Fixed $2 million" approach and the "Mixed approach" would allow spending in excess of return on investment. These approaches limit budget transfers to relatively low levels, but would not sustain the fund principle indefinitely. The "One-half return" approach grows the fund balance by definition. The "All interest" approach maximizes spending within the constraint of preserving the balance of the fund. The amounts set for the "Increasing amount" approach, provides for a growing spending, but below the level of the proceeds of the fund. Actual mineral levels could be substantially higher. The policy choice should reflect the actual collections and could be revised overtime as the fund matures.

4. **Investment strategy**

The Fund's principal should be invested in international financial assets to avoid distorting the local economy, in a diversified portfolio of financial instruments that protects the fund principal over the long term with minimal risk. Initial investments should be predominantly in AAA bonds or equivalent, with limited investment in potentially higher return, but more risky assets. The initial asset allocation could be enacted in law or established as a function of an advisory body, but should be reviewed on an ongoing basis with recommendations to the Government for revisions in the asset allocation to coincide with the election cycle.

Asset allocation would initially be very conservative to preserve the principal of the fund by investing in very secure assets. Timor-Leste legislated its initial asset allocation in the 2005 law establishing the Petroleum Fund: a minimum of 90% to be invested in AAA securities denominated in US dollars; not more than 10% in securities issued abroad, liquid and transparent, and traded in a financial market of the highest regulatory standard.[8] Timor-Leste's Investment Advisory Board is currently considering whether revisions would be appropriate to their investment strategy. Other countries with more mature funds, like Norway, invest in a wide range of assets; the constraints being that they must be outside Norway and cannot be for a specified list of what are described as "unethical" businesses, e.g. arms manufacturers. Singapore's Tamasek Holdings recently purchased a $426 million stake in Canada's Ivanhoe Mines, one of the largest mining concerns operating in Mongolia, one of the fastest growing parts of Asia. Tamasek Holdings has a portfolio that is currently valued at $193 billion US dollars. New Zealand's Superannuation Fund must invest "to maximize return without undue risk". The Cook Islands Superannuation Fund is required to invest "on a prudent commercial basis, consistent with best practice portfolio management". [9]

Investment standards vary depending on size and maturity of the funds. The Cook Islands SWF should be conservatively invested until the fund has grown to a size where the return on investment supports the current needs of the country. At that point, shifting a portion of the assets of the fund into higher risk investments could be warranted. Legislation creating the fund should either specify an initial asset mix like Timor-Leste or provide guidance to the Board to establish conservative investment criteria.

5. Governance

The Minister of Finance and Economic Management should be responsible for the overall management of the fund on behalf of the people of the Cook Islands, supported by an oversight board. Investment advice and investment management should be functions contracted to professional investment managers through competitive tender. Legislation establishing the fund should require the specification of a code of conduct to be applied to all participants in the management and oversight of the fund.

The governance objective for the SWF is to provide operational independence, while ensuring accountability to the Government and the public. The SWF is intended to preserve national wealth; within Government the national interest for financial matters is the responsibility of the Minister of Finance and Economic Management. Therefore, the Minister of MFEM should be designated to have responsibility for the SWF. An oversight board should be established to advise the Minister on investment policy and to oversee the operations of the fund. This general approach is consistent with the governance arrangements for many SWFs and with the Cook Islands institutional arrangements for similar activities. The Superannuation Fund has a board, and reports to the Minister of MFEM. The Superannuation Fund is a private entity in contrast to the SWF which would be a government fund. The Seabed Minerals Authority has an advisory board that reports to the Minister of Marine Resources.

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[8] Article 14, Investment Rules, Petroleum Fund Law, Law No. 9/2005.

[9] Cook Islands Superannuation Act 2000, Section 19.

The composition of an advisory board may present an issue. Most SWF boards have five to nine members. The qualifications of the board emphasize investment management, corporate governance, finance and economics skills. The Minister of Finance appoints board members of most SWFs. Composition of illustrative advisory boards are as follows:

- The Cook Islands Superannuation Fund – the Financial Secretary, a nominee of the Cook Islands Workers Association, a representative of the Chamber of Commerce, a representative of non-Chamber of Commerce businesses, and a representative of contributors.
- Timor-Leste's Investment Advisory Board includes the Director of the Treasury, the Head of the Central Bank, two persons appointed by the Minister with significant experience in investment management, and one other person appointed by the Minister.
- Trinidad and Tobago's Heritage and Stabilization Fund's Board consists of five members with proven competence in matters of finance, investment, economics, and business, including an officer of the Central Bank and the Ministry.
- Finance Secretary Richard Neves suggested a board consisting of a representative of the Reserve Bank of New Zealand, a church representative to represent Cook Islands traditional interests, the Seabed Mining Authority, and the Solicitor General.
- Minister Brown suggested having two or three ministers on the Board.

An issue that will need to be resolved is whether the Board should have members who are politicians. It is unlikely that there will be many Cook Islanders with significant investment management experience. Appointees to the Board will ideally recognize the need for professional investment expertise by hiring investment advisors and investment managers.

Investment management should be contracted to professional investment management experts. The Cook Islands does not have a central bank. It could create a separate legal entity (statutory management agency), but unlike the Superannuation Fund there would be no administrative functions to implement in the Cook Islands. The tax collection agency will presumably collect government revenues, and could transfer the revenues into the SWF. An external investment manager under MFEM's control could invest the balances of the fund. Two alternatives that could be considered: first, to contract with the Central Bank of New Zealand to be the investment manager for the SWF; another alternative would be to adopt the Superannuation Fund Investment hierarchy – see the box below.[10] The Superannuation Fund could manage two separate accounts under a single manager. This would result in some savings, but could limit investment diversity.

[10] Cook Islands Superannuation Fund management structure, http://cinsf.com/index.php?option=com_content&view=article&id=6&Itemid=7

Governance Structure of the Cook Islands Superannuation Fund

- National Superannuation Board – 5 community members
- Chief Executive Officer, appointed by the Board
- Trustee – Public Trustee of New Zealand
- Administrative Manager – AON
- Investment Manager – Russell World Fund
- Fund Insurer – AXA Insurance
- Fund Auditors – Deloitte
- Investment Advice – Mercer
- Actuary – Merville, Jessup and Weaver

Legislation creating the SWF should mandate a code of conduct – ethical standards – for all officials involved with the governance and investment of the SWF. The code of conduct could be mandated by law rather than specified in law. It should cover insider dealings, conflicts of interest, disclosure policies, systems of monitoring and detecting unethical behavior and fraud and mechanisms for properly addressing and managing instances of fraud.

6. Transparency

All transactions of the fund and the fund's financial performance should be transparent, including: fund operations, asset holdings, and decision-making. Revenues and spending of the fund should be controlled through the budget. The fund's finances should be included in the Medium Term Financial Update. There should be an annual report on the performance of the fund and its transactions should be included in the Budget, Quarterly and Annual Reports, and Financial Statements of Government. The fund should be subject to annual review by the National Audit Office and subject to periodic independent audit. Finally, the Parliament should provide oversight through review of reporting, operation and performance of the fund.

The Board of the fund should report annually on the performance of the fund. This report should provide information on the composition of the investments, fund operations, asset holdings, and decision making. It should report on performance compared to the investment strategy and should provide recommendations for any changes in investment strategy. The report should be submitted to the Minister and to the Parliament, and should be made public.

Transactions of the SWF should be subject to all reporting and review requirements applied to all government transactions. The fund could potentially be one of the larger components of the fiscal regime of the country. The budget should reflect the annual revenues and spending of the fund, the MTF should include projections for the budget period for operations of the fund, and financial quarterly reports, and annual statements on budget actuals should include data on the actual transactions of the fund. Annual financial statements should be prepared in line the

Cook Islands Governments form and content requirements and with International Public Sector Accounting Standards (IPSAS).

The SWF should be subject to all appropriate Cook Island oversight procedures. It may be appropriate for the Financial Services Commission to oversee outsourcing agreements, operational risk and the investment managers. Internal audit should review the fund's activities and underlying transactions in accord with authorizing legislation, oversee compliance with investment guidelines in terms of profitability and risk exposure, provide regular reports on findings, and make recommendations to internal bodies. External audit should evaluate the Fund's administration, review the Board's judgments and decisions, and assess financial and management controls. Finally, the Parliament should provide oversight to the reporting, operation and performance of the fund. Open transparent reporting and oversight will build public understanding and trust in the functions of the fund.

Loan Repayment Fund for the Cook Islands:

There are not as many precedents for establishing a loan repayment fund as there are for creating sovereign wealth funds. This section provides some observations on how such fund would be implemented. There may be some conflicts between the proposed fund and the current requirements of Part XII of the Ministry of Finance and Economic Management Act, 1995-1996. The provisions of Part XII should be reconciled with legislation creating a loan repayment fund.[11]

1. **Establishment of loan repayment fund**

Legislation should be enacted to establish a loan repayment fund for the Cook Islands. The fund would be legislated to prevent the use of funds provided for any purpose other than debt repayment. Loan agreements are binding, but previous Governments have redirected loan repayment funds. Creating a loan fund in law would insure that funds were available when needed to redeem debt. Having the loan fund could increase the confidence of international lenders and result in lower risk premiums being charged to the Cook Islands.

2. **Size and rationale for deposits**:

Annual contributions to the loan fund would be based on the debt service requirements for the year. They could also be used to smooth debt service appropriations over a number of years. Calculation of the annual contribution should reflect the amortization of schedule outstanding debt, adjustments to reflect new borrowing, the adequacy of prior year-end balances and the appetite for smoothing out peaks in annual debt service payments. To the extent that debt is denominated in foreign currency, a reserve for currency risk should also be included in the calculation. Both the debt service requirements and scheduled repayments of debt guaranteed for State Owned Enterprises (SOEs) should be included in the calculation of the annual contribution.

The analysis of the debt requirements should present opportunities to make the debt burden more efficient and less costly to government. Over the past three years the NZ dollar has appreciated compared to the US dollar resulting in a reduction in the book value of debt outstanding. The Cook Islands Government is currently discussing the possibility of shifting ADB loans from being denominated in US dollars to NZ dollars. This change would lock the improved exchange rate into the debt. Similar analyses could lead to other debt efficiencies in the future.

3. **Advanced assessment of debt proposals**

An assessment on amortization of new loan proposals and their impact on the loan fund would be required in advance of new borrowing. The assessment would include the amortization schedule for the new loan and its impact on debt service and

[11] Ministry of Finance and Economic Management Act, 1995-1996, Part XII Loans and Securities, pp.16-18.

aggregate debt burden over the life of the debt. A public report should be required on the debt analysis in advance of any borrowing.

This requirement is new and is intended to improve public understanding of public borrowing. The possible loan to replace Rarotonga's water infrastructure was in the amount of $25 million, the renewable energy loan of $100 million. If both of these loans went forward and the economy did not grow, debt outstanding would more than double and debt service would be over 8% of expenditures. Something would have to be cut to make up the 4% increase. Focusing on these numbers should lead to more informed choices about borrowing.

4. Source of Funds

Permanent indefinite appropriation should be provided equal to the estimated annual contribution. The appropriation should be recognized as a mandatory expenditure, given precedence over all current appropriations. The appropriation should be deposited in the fund and withdrawn as debt payments became due.

This authority appears to already exist in section 61 of the Ministry of Finance and Economic Management Act. Creation of the fund would tie the source of funds to the use of those funds for loan repayment.

5. Investment of fund principle

Fund principal should be invested in Cook Islands commercial banks. Investment liquidity should match repayment schedule.

Cook Island Government accounts are currently held in the three commercial banks. As of March of 2012, $45.6 million was distributed among the three banks, providing some liquidity to local financial institutions. To the extent that the debt service reserve fund were invested in time deposits, additional liquidity could be provided to these institutions.

6. **Limitations / Authority to draw funds for the reserv**e

Authority to draw funds from the reserve should be limited to the requirement to redeem scheduled debt. The Cook Islands could consider authorizing the Minister of Finance approval for "temporary" use of funds for a liquidity crisis. It would be essential to define liquidity crisis clearly. If this proposal is included in the proposal, there should be a requirement to restore fund balance within specified time frame, e.g. by the end of the fiscal year, or within 12 months.

Most government Treasuries manage liquidity by shifting funds among accounts. Liquidity issues can occur because expenditures do not occur on schedule, or because tax payments are delayed. Because of the misuse of loan reserves in the past, such shifts should be strictly limited to insure that the loan fund redeems debt on schedule.

7. Fund management – Oversight

The Minister of Finance and Economic Management should be responsible for the management of the fund for the Cook Islands Government. Staff would have to be added to develop the amortization estimates and advanced assessment of loan proposals. Given the number and size of transactions it probably is not necessary to create a separate agency to handle the loan fund, but it may be appropriate to establish a separate unit within the Treasury for this function.

8. Reporting Requirements

All transactions of the fund and the fund's financial performance should be transparent, including: fund operations, asset holdings, and decision-making. An independent audit of Fund should be required annually: both a financial audit and an audit of the accuracy of amortization estimates. The Minister should provide reports on Fund balance and composition in Budget, Quarterly Reports, Annual Reports and Financial Statements.

IV. NEXT STEPS AND POTENTIAL TA NEEDS

The Cook Islands may need assistance in drafting legislation to implement the SWF and the loan repayment fund. In the wrap up conversation with Richard Neves, the Finance Secretary, he mentioned that the Cook Islands may need drafting assistance. Responding to my observation that there were possibly conflicts in the MFEM Act with the proposed loan fund, he mentioned that it might be appropriate to incorporate both of the new funds in a redrafted public finance law.

For the SWF there are existing laws that could serve as points of reference. The SWF legislation could draw from Timor-Leste's Petroleum Fund Act and the Cook Islands Superannuation Fund Act. Both the New Zealand's Superannuation Act and Australia's Future Fund Act are also potentially appropriate references. The size of the Cook Islands and the limitations of the scope of its institutions will be a constraining factor; for example, the Cook Islands does not have a Central Bank.

There are few good examples to draw upon for a loan repayment fund but the concept is straight-forward and the law would not be complex. This should not be a difficult drafting issue.

If the Cook Islands were to decide to redraft its public finance law, TA support could be helpful in reviewing the current law. The Cook Islands are described as having a well-developed public finance system. The Budget released in June was a substantial improvement over previous budgets. In a short visit, it appeared that the major issue facing the current system is the limitation on staffing which is to be expected given the size of the country. The challenge in drafting a revised law would be to prepare a law that could be implemented with the resources available to the Cook Islands.

V. INTERVIEWS

- Financial Secretary – Richard Neves
- Minister of Finance and Economic Management – Hon. Mark Brown
- Leader of the Opposition – Mr. Wilkie Rasmussen
- Solicitor General – Ms. Kim Saunders
- Ngametua College – Funds Management
- Teu Tenlilo – Manager of Treasury Division
- Cook Islands Investment Corporation:
    - Tamari'i Tutangata – Chief Executive Officer
    - Lloyd Miles – General Counsel
- Auditor General – Allen Parker
- Parliament's Public Accounts Committee, Governance and Oversight Unit – Paul Allsworth
- Chamber of Commerce:
    - Teresa Manarangi-Trott – President
    - Six other members
- Andrew Haigh – Treasurer
- Financial Services Development Authority – Jenner Davis – Chief Executive
- Financial Services Commission – John Hobbs – Commissioner
- Public Expenditure Review Committee:
    - Marie Francis – Chairperson
    - Geoff Stoddard – Member (Former Treasurer)
    - Third member
- Public Service Commission – Russell Thomas
- Economic Development Task Force:
    - John Tierney – Chairman
    - Jenner Davis – Member
    - Dan Obrien – Local businessman
- Deep Sea Mining Authority:
    - Paul Lynch – Senior Legal Advisor to Deputy Prime Minister
    - Jim Gosselin
    - Patrick Arioka – Chief of Staff to Deputy Prime Minister
- New Zealand High Commissioner:
    - John Carter – High Commissioner
    - Joanna Kemper – Deputy High Commissioner
- Banker's Association:
    - David Dennis – ANZ Bank – Chief Executive Officer
    - Ms. Carmel Butler – WES Bank – General Manager
    - Ms. Vaine Arioka – BCI Bank – General Manager
- Office of the Prime Minister – Liz Koteka
- ANZ Bank:
    - David Dennis
    - Arjan Roukema, Head of Sales for the Pacific
- Cook Islands Superannuation Fund:
    - John Kenning – Chairperson
    - Anne Herman - CEO

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Legislation

Cook Islands legislation:

Constitution of the Cook Islands

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Financial Supervisory Commission Act 2003

Government Property Corporation Act 1969

Ministry of Finance and Economic Management Act, 1995-1996

National Superannuation Act 2000

National Superannuation Fund Trust Deed

Public Expenditure Committee Review and Audit Act of 1995-1996

The *Seabed Minerals Act 2009*

Superannuation Act 2000

Sovereign Wealth Fund Legislation:

Australia, Future Fund Act of 2006

New Zealand, Superannuation and Retirement Income Act 2001

Timor-Leste, Petroleum Fund Law, Law No. 9/2005.

Trinidad and Tobago, Heritage and Stabilization Fund Act of 2007

Appendices:

1. Fixed $2 million Transfer to Budget Annually – 4% return on investments
2. One-Half Return on Investment Transferred to Budget – 4% return on investments
3. Increasing Amount Transferred to Budget – 4% return on investments
4. All Interest Earnings Transferred to Budget – 4% return on investments
5. Mixed Approach – 4% return on investments
6. Fixed $2 million Transfer to Budget Annually – 2% return on investments
7. One-Half Return on Investment Transferred to Budget – 2% return on investments
8. Increasing Amount Transferred to Budget – 2% return on investments
9. All Interest Earnings Transferred to Budget – 2% return on investments
10. Mixed Approach – 2% return on investments

Appendix 1: Fixed $2 million Transfer to Budget Annually - 4% return on investments (US$ millions, real terms)

Year	Total Production	Exploration cost	Development Cost	Operating Cost	*Net Cost (-) vs Revenue*	*Annual 28% CIT*	*Balance plus CIT*	*Compound return at 4%*	*Transfer to Budget*	*Fund balance*
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.2*	*-2.0*	*2.4*
7	80.0		10.0	30.0	*40.0*	*11.2*	*13.6*	*0.5*	*-2.0*	*12.1*
8	80.0		5.0	30.0	*45.0*	*12.6*	*24.7*	*1.0*	*-2.0*	*23.7*
9	80.0		5.0	30.0	*45.0*	*12.6*	*36.3*	*1.5*	*-2.0*	*35.8*
10	80.0		5.0	30.0	*45.0*	*12.6*	*48.4*	*1.9*	*-2.0*	*48.3*
11	80.0		5.0	30.0	*45.0*	*12.6*	*60.9*	*2.4*	*-2.0*	*61.3*
12	80.0			30.0	*50.0*	*14.0*	*75.3*	*3.0*	*-2.0*	*76.3*
13	80.0			30.0	*50.0*	*14.0*	*90.3*	*3.6*	*-2.0*	*91.9*
14	80.0		5.0	30.0	*45.0*	*12.6*	*104.5*	*4.2*	*-2.0*	*106.7*
15	72.0			28.0	*44.0*	*12.3*	*119.0*	*4.8*	*-2.0*	*121.8*
16	64.0			26.0	*38.0*	*10.6*	*132.5*	*5.3*	*-2.0*	*135.7*
17	56.0			24.0	*32.0*	*9.0*	*144.7*	*5.8*	*-2.0*	*148.5*
18	48.0			22.0	*26.0*	*7.3*	*155.8*	*6.2*	*-2.0*	*160.0*
19	40.0			20.0	*20.0*	*5.6*	*165.6*	*6.6*	*-2.0*	*170.2*
20							*170.2*	*6.8*	*-2.0*	*175.0*
21							*175.0*	*7.0*	*-2.0*	*180.0*
22							*180.0*	*7.2*	*-2.0*	*185.2*
23							*185.2*	*7.4*	*-2.0*	*190.7*
24							*190.7*	*7.6*	*-2.0*	*196.3*
25							*196.3*	*7.9*	*-2.0*	*202.1*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*90.9*	*-40.0*	
							Average annual transfer…………………	***-2.0***		

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat.

Appendix 2: One-Half Return on Investment Transferred to Budget - 4% return on investments (US$ millions, real terms)

Year	**Total Production**	**Exploration cost**	**Development Cost**	**Operating Cost**	***Net Cost (-) vs Revenue***	***Annual 28% CIT***	***Balance plus CIT***	***Compound return at 4%***	***Transfer to Budget***	***Fund balance***
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.2*	*-0.1*	*4.3*
7	80.0		10.0	30.0	*40.0*	*11.2*	*15.5*	*0.6*	*-0.3*	*15.8*
8	80.0		5.0	30.0	*45.0*	*12.6*	*28.4*	*1.1*	*-0.6*	*29.0*
9	80.0		5.0	30.0	*45.0*	*12.6*	*41.6*	*1.7*	*-0.8*	*42.4*
10	80.0		5.0	30.0	*45.0*	*12.6*	*55.0*	*2.2*	*-1.1*	*56.1*
11	80.0		5.0	30.0	*45.0*	*12.6*	*68.7*	*2.7*	*-1.4*	*70.1*
12	80.0			30.0	*50.0*	*14.0*	*84.1*	*3.4*	*-1.7*	*85.7*
13	80.0			30.0	*50.0*	*14.0*	*99.7*	*4.0*	*-2.0*	*101.7*
14	80.0		5.0	30.0	*45.0*	*12.6*	*114.3*	*4.6*	*-2.3*	*116.6*
15	72.0			28.0	*44.0*	*12.3*	*128.9*	*5.2*	*-2.6*	*131.5*
16	64.0			26.0	*38.0*	*10.6*	*142.2*	*5.7*	*-2.8*	*145.0*
17	56.0			24.0	*32.0*	*9.0*	*154.0*	*6.2*	*-3.1*	*157.1*
18	48.0			22.0	*26.0*	*7.3*	*164.3*	*6.6*	*-3.3*	*167.6*
19	40.0			20.0	*20.0*	*5.6*	*173.2*	*6.9*	*-3.5*	*176.7*
20							*176.7*	*7.1*	*-3.5*	*180.2*
21							*180.2*	*7.2*	*-3.6*	*183.8*
22							*183.8*	*7.4*	*-3.7*	*187.5*
23							*187.5*	*7.5*	*-3.7*	*191.2*
24							*191.2*	*7.6*	*-3.8*	*195.1*
25							*195.1*	*7.8*	*-3.9*	*199.0*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*95.5*	*-47.8*	
							Average annual transfer…………………		***-2.4***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.

Appendix 3: Increasing Amount Transferred to Budget - 4% return on investments (US$ millions, real terms)

Year	Total Production	Exploration cost	Development Cost	Operating Cost	*Net Cost (-) vs Revenue*	*Annual 28% CIT*	*Balance plus CIT*	*Compound return at 4%*	*Transfer to Budget*	*Fund balance*
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.2*	*-1.0*	*3.4*
7	80.0		10.0	30.0	*40.0*	*11.2*	*14.6*	*0.6*	*-1.0*	*14.2*
8	80.0		5.0	30.0	*45.0*	*12.6*	*26.8*	*1.1*	*-1.0*	*26.8*
9	80.0		5.0	30.0	*45.0*	*12.6*	*39.4*	*1.6*	*-1.0*	*40.0*
10	80.0		5.0	30.0	*45.0*	*12.6*	*52.6*	*2.1*	*-1.0*	*53.7*
11	80.0		5.0	30.0	*45.0*	*12.6*	*66.3*	*2.7*	*-1.5*	*67.5*
12	80.0			30.0	*50.0*	*14.0*	*81.5*	*3.3*	*-1.5*	*83.2*
13	80.0			30.0	*50.0*	*14.0*	*97.2*	*3.9*	*-1.5*	*99.6*
14	80.0		5.0	30.0	*45.0*	*12.6*	*112.2*	*4.5*	*-1.5*	*115.2*
15	72.0			28.0	*44.0*	*12.3*	*127.5*	*5.1*	*-1.5*	*131.1*
16	64.0			26.0	*38.0*	*10.6*	*141.7*	*5.7*	*-2.0*	*145.4*
17	56.0			24.0	*32.0*	*9.0*	*154.4*	*6.2*	*-2.0*	*158.6*
18	48.0			22.0	*26.0*	*7.3*	*165.8*	*6.6*	*-2.0*	*170.5*
19	40.0			20.0	*20.0*	*5.6*	*176.1*	*7.0*	*-2.0*	*181.1*
20							*181.1*	*7.2*	*-2.0*	*186.4*
21							*186.4*	*7.5*	*-2.5*	*191.3*
22							*191.3*	*7.7*	*-2.5*	*196.5*
23							*196.5*	*7.9*	*-2.5*	*201.8*
24							*201.8*	*8.1*	*-2.5*	*207.4*
25							*207.4*	*8.3*	*-2.5*	*213.2*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*97.0*	*-35.0*	
							Average annual transfer…………………		***-1.8***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.

Appendix 4: All Interest Earnings Transferred to Budget - 4% return on investments (US$ millions, real terms)

Year	Total Production	Exploration cost	Development Cost	Operating Cost	*Net Cost (-) vs Revenue*	*Annual 28% CIT*	*Balance plus CIT*	*Compound return at 4%*	*Transfer to Budget*	*Fund balance*
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.2*	*-0.2*	*4.2*
7	80.0		10.0	30.0	*40.0*	*11.2*	*15.4*	*0.6*	*-0.6*	*15.4*
8	80.0		5.0	30.0	*45.0*	*12.6*	*28.0*	*1.1*	*-1.1*	*28.0*
9	80.0		5.0	30.0	*45.0*	*12.6*	*40.6*	*1.6*	*-1.6*	*40.6*
10	80.0		5.0	30.0	*45.0*	*12.6*	*53.2*	*2.1*	*-2.1*	*53.2*
11	80.0		5.0	30.0	*45.0*	*12.6*	*65.8*	*2.6*	*-2.6*	*65.8*
12	80.0			30.0	*50.0*	*14.0*	*79.8*	*3.2*	*-3.2*	*79.8*
13	80.0			30.0	*50.0*	*14.0*	*93.8*	*3.8*	*-3.8*	*93.8*
14	80.0		5.0	30.0	*45.0*	*12.6*	*106.4*	*4.3*	*-4.3*	*106.4*
15	72.0			28.0	*44.0*	*12.3*	*118.7*	*4.7*	*-4.7*	*118.7*
16	64.0			26.0	*38.0*	*10.6*	*129.4*	*5.2*	*-5.2*	*129.4*
17	56.0			24.0	*32.0*	*9.0*	*138.3*	*5.5*	*-5.5*	*138.3*
18	48.0			22.0	*26.0*	*7.3*	*145.6*	*5.8*	*-5.8*	*145.6*
19	40.0			20.0	*20.0*	*5.6*	*151.2*	*6.0*	*-6.0*	*151.2*
20							*151.2*	*6.0*	*-6.0*	*151.2*
21							*151.2*	*6.0*	*-6.0*	*151.2*
22							*151.2*	*6.0*	*-6.0*	*151.2*
23							*151.2*	*6.0*	*-6.0*	*151.2*
24							*151.2*	*6.0*	*-6.0*	*151.2*
25							*151.2*	*6.0*	*-6.0*	*151.2*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*83.1*	*-83.1*	
							Average annual transfer…………………		***-4.2***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.

Appendix 5: Mixed Approach - 4% return on investments (US$ millions, real terms)

Year	**Total Production**	**Exploration cost**	**Development Cost**	**Operating Cost**	***Net Cost (-) vs Revenue***	***Annual 28% CIT***	***Balance plus CIT***	***Compound return at 4%***	***Transfer to Budget***	***Fund balance***
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.2*	*-2.0*	*2.4*
7	80.0		10.0	30.0	*40.0*	*11.2*	*13.6*	*0.5*	*-2.0*	*12.1*
8	80.0		5.0	30.0	*45.0*	*12.6*	*24.7*	*1.0*	*-2.0*	*23.7*
9	80.0		5.0	30.0	*45.0*	*12.6*	*36.3*	*1.5*	*-2.0*	*35.8*
10	80.0		5.0	30.0	*45.0*	*12.6*	*48.4*	*1.9*	*-2.0*	*48.3*
11	80.0		5.0	30.0	*45.0*	*12.6*	*60.9*	*2.4*	*-2.4*	*60.9*
12	80.0			30.0	*50.0*	*14.0*	*74.9*	*3.0*	*-3.0*	*74.9*
13	80.0			30.0	*50.0*	*14.0*	*88.9*	*3.6*	*-3.6*	*88.9*
14	80.0		5.0	30.0	*45.0*	*12.6*	*101.5*	*4.1*	*-4.1*	*101.5*
15	72.0			28.0	*44.0*	*12.3*	*113.8*	*4.6*	*-4.6*	*113.8*
16	64.0			26.0	*38.0*	*10.6*	*124.4*	*5.0*	*-5.0*	*124.4*
17	56.0			24.0	*32.0*	*9.0*	*133.4*	*5.3*	*-5.3*	*133.4*
18	48.0			22.0	*26.0*	*7.3*	*140.7*	*5.6*	*-5.6*	*140.7*
19	40.0			20.0	*20.0*	*5.6*	*146.3*	*5.9*	*-5.9*	*146.3*
20							*146.3*	*5.9*	*-5.9*	*146.3*
21							*146.3*	*5.9*	*-5.9*	*146.3*
22							*146.3*	*5.9*	*-5.9*	*146.3*
23							*146.3*	*5.9*	*-5.9*	*146.3*
24							*146.3*	*5.9*	*-5.9*	*146.3*
25							*146.3*	*5.9*	*-5.9*	*146.3*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*79.6*	*-84.5*	
							Average annual transfer………………….		***-4.2***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.

Appendix 6: Fixed $2 million Transferred to Budget Annually - 2% return on investments (US$ millions, real terms)

Year	Total Production	Exploration cost	Development Cost	Operating Cost	*Net Cost (-) vs Revenue*	*Annual 28% CIT*	*Balance plus CIT*	*Compound return at 4%*	*Transfer to Budget*	*Fund balance*
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.1*	*-2.0*	*2.3*
7	80.0		10.0	30.0	*40.0*	*11.2*	*13.5*	*0.3*	*-2.0*	*11.8*
8	80.0		5.0	30.0	*45.0*	*12.6*	*24.4*	*0.5*	*-2.0*	*22.8*
9	80.0		5.0	30.0	*45.0*	*12.6*	*35.4*	*0.7*	*-2.0*	*34.1*
10	80.0		5.0	30.0	*45.0*	*12.6*	*46.7*	*0.9*	*-2.0*	*45.7*
11	80.0		5.0	30.0	*45.0*	*12.6*	*58.3*	*1.2*	*-2.0*	*57.5*
12	80.0			30.0	*50.0*	*14.0*	*71.5*	*1.4*	*-2.0*	*70.9*
13	80.0			30.0	*50.0*	*14.0*	*84.9*	*1.7*	*-2.0*	*84.6*
14	80.0		5.0	30.0	*45.0*	*12.6*	*97.2*	*1.9*	*-2.0*	*97.1*
15	72.0			28.0	*44.0*	*12.3*	*109.4*	*2.2*	*-2.0*	*109.6*
16	64.0			26.0	*38.0*	*10.6*	*120.3*	*2.4*	*-2.0*	*120.7*
17	56.0			24.0	*32.0*	*9.0*	*129.6*	*2.6*	*-2.0*	*130.2*
18	48.0			22.0	*26.0*	*7.3*	*137.5*	*2.8*	*-2.0*	*138.3*
19	40.0			20.0	*20.0*	*5.6*	*143.9*	*2.9*	*-2.0*	*144.7*
20							*144.7*	*2.9*	*-2.0*	*145.6*
21							*145.6*	*2.9*	*-2.0*	*146.5*
22							*146.5*	*2.9*	*-2.0*	*147.5*
23							*147.5*	*2.9*	*-2.0*	*148.4*
24							*148.4*	*3.0*	*-2.0*	*149.4*
25							*149.4*	*3.0*	*-2.0*	*150.4*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*39.2*	*-40.0*	
							Average annual transfer…………………		***-2.0***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat.

Appendix 7: One-Half Return on Investment Transferred to Budget - 2% return on investments (US$ millions, real terms)

Yea r	**Total Production**	**Exploratio n cost**	**Developme nt Cost**	**Operatin g Cost**	***Net Cost (-) vs Revenue***	***Annual 28% CIT***	***Balance plus CIT***	***Compound return at 4%***	***Transfer to Budget***	***Fund balanc e***
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.1*	*0.0*	*4.2*
7	80.0		10.0	30.0	*40.0*	*11.2*	*15.4*	*0.3*	*-0.2*	*15.6*
8	80.0		5.0	30.0	*45.0*	*12.6*	*28.2*	*0.6*	*-0.3*	*28.5*
9	80.0		5.0	30.0	*45.0*	*12.6*	*41.1*	*0.8*	*-0.4*	*41.5*
10	80.0		5.0	30.0	*45.0*	*12.6*	*54.1*	*1.1*	*-0.5*	*54.6*
11	80.0		5.0	30.0	*45.0*	*12.6*	*67.2*	*1.3*	*-0.7*	*67.9*
12	80.0			30.0	*50.0*	*14.0*	*81.9*	*1.6*	*-0.8*	*82.7*
13	80.0			30.0	*50.0*	*14.0*	*96.7*	*1.9*	*-1.0*	*97.7*
14	80.0		5.0	30.0	*45.0*	*12.6*	*110.3*	*2.2*	*-1.1*	*111.4*
15	72.0			28.0	*44.0*	*12.3*	*123.7*	*2.5*	*-1.2*	*124.9*
16	64.0			26.0	*38.0*	*10.6*	*135.6*	*2.7*	*-1.4*	*136.9*
17	56.0			24.0	*32.0*	*9.0*	*145.9*	*2.9*	*-1.5*	*147.4*
18	48.0			22.0	*26.0*	*7.3*	*154.6*	*3.1*	*-1.5*	*156.2*
19	40.0			20.0	*20.0*	*5.6*	*161.8*	*3.2*	*-1.6*	*163.4*
20							*163.4*	*3.3*	*-1.6*	*165.0*
21							*165.0*	*3.3*	*-1.7*	*166.7*
22							*166.7*	*3.3*	*-1.7*	*168.4*
23							*168.4*	*3.4*	*-1.7*	*170.0*
24							*170.0*	*3.4*	*-1.7*	*171.7*
25							*171.7*	*3.4*	*-1.7*	*173.5*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*44.5*	*-22.3*	
							Average annual transfer………………….		***-1.1***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.

Appendix 8: Increasing Amount Transferred to Budget - 2% return on investments (US$ millions, real terms)

Year	**Total Production**	**Exploration cost**	**Development Cost**	**Operating Cost**	***Net Cost (-) vs Revenue***	***Annual 28% CIT***	***Balance plus CIT***	***Compound return at 4%***	***Transfer to Budget***	***Fund balance***
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.1*	*-1.0*	*3.3*
7	80.0		10.0	30.0	*40.0*	*11.2*	*14.5*	*0.3*	*-1.0*	*13.8*
8	80.0		5.0	30.0	*45.0*	*12.6*	*26.4*	*0.5*	*-1.0*	*25.9*
9	80.0		5.0	30.0	*45.0*	*12.6*	*38.5*	*0.8*	*-1.0*	*38.3*
10	80.0		5.0	30.0	*45.0*	*12.6*	*50.9*	*1.0*	*-1.0*	*50.9*
11	80.0		5.0	30.0	*45.0*	*12.6*	*63.5*	*1.3*	*-1.5*	*63.3*
12	80.0			30.0	*50.0*	*14.0*	*77.3*	*1.5*	*-1.5*	*77.3*
13	80.0			30.0	*50.0*	*14.0*	*91.3*	*1.8*	*-1.5*	*91.6*
14	80.0		5.0	30.0	*45.0*	*12.6*	*104.2*	*2.1*	*-1.5*	*104.8*
15	72.0			28.0	*44.0*	*12.3*	*117.1*	*2.3*	*-1.5*	*118.0*
16	64.0			26.0	*38.0*	*10.6*	*128.6*	*2.6*	*-2.0*	*129.2*
17	56.0			24.0	*32.0*	*9.0*	*138.1*	*2.8*	*-2.0*	*138.9*
18	48.0			22.0	*26.0*	*7.3*	*146.2*	*2.9*	*-2.0*	*147.1*
19	40.0			20.0	*20.0*	*5.6*	*152.7*	*3.1*	*-2.0*	*153.8*
20							*153.8*	*3.1*	*-2.0*	*154.8*
21							*154.8*	*3.1*	*-2.5*	*155.4*
22							*155.4*	*3.1*	*-2.5*	*156.1*
23							*156.1*	*3.1*	*-2.5*	*156.7*
24							*156.7*	*3.1*	*-2.5*	*157.3*
25							*157.3*	*3.1*	*-2.5*	*158.0*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*41.8*	*-35.0*	
							Average annual transfer………………….		***-1.8***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.

Appendix 9: All Interest Earnings Transferred to Budget - 2% return on investments (US$ millions, real terms)

Year	Total Production	Exploration cost	Development Cost	Operating Cost	*Net Cost (-) vs Revenue*	*Annual 28% CIT*	*Balance plus CIT*	*Compound return at 4%*	*Transfer to Budget*	*Fund balance*
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.1*	*-0.1*	*4.2*
7	80.0		10.0	30.0	*40.0*	*11.2*	*15.4*	*0.3*	*-0.3*	*15.4*
8	80.0		5.0	30.0	*45.0*	*12.6*	*28.0*	*0.6*	*-0.6*	*28.0*
9	80.0		5.0	30.0	*45.0*	*12.6*	*40.6*	*0.8*	*-0.8*	*40.6*
10	80.0		5.0	30.0	*45.0*	*12.6*	*53.2*	*1.1*	*-1.1*	*53.2*
11	80.0		5.0	30.0	*45.0*	*12.6*	*65.8*	*1.3*	*-1.3*	*65.8*
12	80.0			30.0	*50.0*	*14.0*	*79.8*	*1.6*	*-1.6*	*79.8*
13	80.0			30.0	*50.0*	*14.0*	*93.8*	*1.9*	*-1.9*	*93.8*
14	80.0		5.0	30.0	*45.0*	*12.6*	*106.4*	*2.1*	*-2.1*	*106.4*
15	72.0			28.0	*44.0*	*12.3*	*118.7*	*2.4*	*-2.4*	*118.7*
16	64.0			26.0	*38.0*	*10.6*	*129.4*	*2.6*	*-2.6*	*129.4*
17	56.0			24.0	*32.0*	*9.0*	*138.3*	*2.8*	*-2.8*	*138.3*
18	48.0			22.0	*26.0*	*7.3*	*145.6*	*2.9*	*-2.9*	*145.6*
19	40.0			20.0	*20.0*	*5.6*	*151.2*	*3.0*	*-3.0*	*151.2*
20							*151.2*	*3.0*	*-3.0*	*151.2*
21							*151.2*	*3.0*	*-3.0*	*151.2*
22							*151.2*	*3.0*	*-3.0*	*151.2*
23							*151.2*	*3.0*	*-3.0*	*151.2*
24							*151.2*	*3.0*	*-3.0*	*151.2*
25							*151.2*	*3.0*	*-3.0*	*151.2*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*41.6*	*-41.6*	
							Average annual transfer………………….		***-2.1***	

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.

Appendix 10: Mixed Approach - 2% return on investments (US$ millions, real terms)

Year	Total Production	Exploration cost	Development Cost	Operating Cost	*Net Cost (-) vs Revenue*	*Annual 28% CIT*	*Balance plus CIT*	*Compound return at 4%*	*Transfer to Budget*	*Fund balance*
1		3.0			*-3.0*					
2		3.0			*-3.0*					
3		3.0			*-3.0*					
4			45.0		*-45.0*					
5			40.0		*-40.0*					
6	60.0		20.0	25.0	*15.0*	*4.2*	*4.2*	*0.1*	*-2.0*	*2.3*
7	80.0		10.0	30.0	*40.0*	*11.2*	*13.5*	*0.3*	*-2.0*	*11.8*
8	80.0		5.0	30.0	*45.0*	*12.6*	*24.4*	*0.5*	*-2.0*	*22.8*
9	80.0		5.0	30.0	*45.0*	*12.6*	*35.4*	*0.7*	*-2.0*	*34.1*
10	80.0		5.0	30.0	*45.0*	*12.6*	*46.7*	*0.9*	*-2.0*	*45.7*
11	80.0		5.0	30.0	*45.0*	*12.6*	*58.3*	*1.2*	*-2.0*	*57.5*
12	80.0			30.0	*50.0*	*14.0*	*71.5*	*1.4*	*-2.0*	*70.9*
13	80.0			30.0	*50.0*	*14.0*	*84.9*	*1.7*	*-2.0*	*84.6*
14	80.0		5.0	30.0	*45.0*	*12.6*	*97.2*	*1.9*	*-2.0*	*97.1*
15	72.0			28.0	*44.0*	*12.3*	*109.4*	*2.2*	*-2.2*	*109.4*
16	64.0			26.0	*38.0*	*10.6*	*120.1*	*2.4*	*-2.4*	*120.1*
17	56.0			24.0	*32.0*	*9.0*	*129.0*	*2.6*	*-2.6*	*129.0*
18	48.0			22.0	*26.0*	*7.3*	*136.3*	*2.7*	*-2.7*	*136.3*
19	40.0			20.0	*20.0*	*5.6*	*141.9*	*2.8*	*-2.8*	*141.9*
20							*141.9*	*2.8*	*-2.8*	*141.9*
21							*141.9*	*2.8*	*-2.8*	*141.9*
22							*141.9*	*2.8*	*-2.8*	*141.9*
23							*141.9*	*2.8*	*-2.8*	*141.9*
24							*141.9*	*2.8*	*-2.8*	*141.9*
25							*141.9*	*2.8*	*-2.8*	*141.9*
Totals	*980.0*	*9.0*	*140.0*	*385.0*	*446.0*	*151.2*		*38.5*	*-47.8*	
							Average annual transfer………………….	*-2.4*		

Source of production and cost estimates: Deep Sea Minerals Fiscal Regime, Commonwealth Secretariat, page A2, June 2012.