



Mohammed Bin Rashid School Of Government

POLICY BRIEF

Policy Brief No. 45

November 2017

Summary

Sovereign wealth funds (SWFs) are state-owned investment vehicles controlling an estimated US\$ 7.5 trillion worth of assets as of October 2017. Typically, they manage portfolios of assets, by investing in shares or bonds, or acquiring real estate or companies, with a focus to increase returns on capital invested, stabilize their home country against economic volatility, diversify foreign exchange holdings or safeguard an aging population. This is a simplistic notion, as SWF are powerful tools that can shape the economic and social strategy of a nation. The focus needs to shift from the purely financial perspective of return on investment to include a broader perspective of return on development. By using the concept of a global factory, a SWF can use assets as a route to harness knowledge and technology, capture markets and reinvest in the development of its economy and people. By doing this, at a broader level, they can also create value spillover to host countries around the world. This route has policy implications for government bodies charged with managing SWF.

UAE Sovereign Wealth Funds as Enablers of the Global Factory

*Professor Melodena Stephens Balakrishnan and
Dr. Immanuel Azaad Moonesar R.D.*

Policy and academia can be seen as existing in different spheres though they are closely intertwined (Newman et al., 2016). Research brokering – bringing academic and policy research together for greater traction in practice and for learning in the classrooms is sometimes missing. Four key areas are shaping the movement of policy research into practice. The first area of focus is the inter-disciplinary nature of policy research with other disciplines. As governments look at best practices not only from other governments but also from other businesses, we see an interesting field of research especially as the political impact of businesses is far reaching and cannot be ignored. Second, there needs to be greater visibility in terms of awareness of issues, strategic solutions and spillover across various disciplines focusing on policy makers, academicians, practitioners, and teachers. Third, research findings that cross policy and business fields, need a common applicability to ensure greater acceptability and feasibility of recommendations. The macro and micro-analyses need to inform decision making, and further, the language across disciplines needs to be standardized for greater scalability. Last but not most important, to empower successive generations of governing employees at the individual level or the collective organizational level, the findings need to be such that it can be easily communicated and that contributes to learning. These points are represented in Table 1.



Table 1: Key Factors in Shaping the Movement of Research into Practice

Interdisciplinary	Research is not bounded by a discipline but remains relevant across related disciplines.
Visibility	Research is visible and relevant to each, and across all policy makers, academicians, practitioners, and teachers.
Acceptability and feasibility	Research findings are valuable and can be used to inform practice (decision making) – we start using a common language to see the world through a similar lens.
Transportability	The findings can be easily shared and can add to “learning” influencing institutional designs and individual behavior.

Source: Adapted from Schneider (2015); Ferraro et al. (2005); Bazerman (2005); Munir (2011); Marti and Scherer (2016)

In this policy brief, we explore one such area that lies at the intersection of policy and business research. This is the concept of the global factory and sovereign wealth funds (SWF), where you have an intersection of state-owned enterprises, the private sector, citizens and governments of host and home countries. There is spillover in economic performance and social impact from the national level to international level and at the global level; from state-owned organizations (SOEs) and private sector multinational corporations (MNCs) and vice versa, which can change the context of market regulation at nation and international level. Both global factories and SWFs are relatively new concepts and are briefly described below.

The Global Factory

The Global Factory is defined as a combination of interacting physical and social networks, which are uniquely fitted to combine support for trade, technology and knowledge flows across countries (Buckley, 2009, p. 8). The purpose of organizations that have a global factory approach is to create differentiated

networks, and location and ownership policies to lead to profit maximization, without the need to internalize their activities (Buckley, 2004, 2009, p. 5).

The potential impact of SWF which are SOEs and which often create state-owned MNCs (SOMNCs) should not be ignored. It is estimated that SOEs hold shares in one out of every five firms worldwide (Fernandes, 2009) and cumulatively account for about 2% of the total size of equity and bond markets globally (Gieve, 2009; Storn, 2008). SOEs were 23% of the Fortune 500 companies in 2014 (PwC, 2015). It is estimated that SWF assets under management (AuM) were to be worth US\$10 trillion by 2015 (Jen & Andreopoulos, 2008), which is more than 10% of the world’s total AuM (WIR 2015). SOEs control US\$7.5 trillion in foreign assets and have 10% or more of voting power SWF Institute, 2017.

From a national advantage point of view, SWFs could potentially use their assets to build networks and strategic alliances with international partners (Behrendt, 2009). They can seek legitimacy in the eyes of the international community and the eyes of their citizens. Such a scenario implies a ‘collective

decision making' that allows equal participation of key stakeholders (Thompson, 2008: 502, 504–505).

The 2014 DHL Global Connectedness Index report finds that emerging economies are connected globally on an equal level as advanced economies, concerning trade flows, but are about 75% behind the advanced economies in international capital and people flows, and are one-ninth as globalized regarding information flows (Ghemawat and Altman, 2014). There is a tremendous potential for the growth of the global factory. Multinational corporations and transnational corporations are often considered the champions of the global factory. Of the 50,000 multinational enterprises identified by the International Labor Organization, 650 are SOEs or SOMNCs with some 15,000 affiliates accounting for 11% of FDI (ILO, 2015; UNCTAD 2015; WIR, 2014). FDI from transnational corporations (TNCs) from developing and transition economies was valued at 39% of total global FDI outflows (WIR, 2014).

SWFs are often considered enablers of the global factory as they provide a strategic blueprint for “the proposed shift of surplus foreign exchange reserves from passive liquidity management to active profit-seeking investment” (Park and Estrade 2009, p. 1). Countries are now moving away from merely hosting MNCs to investing in MNCs with the intention of enabling them to become a source of FDI (see Startup Chile, Startup India). SWFs, following the notion of “global factory” began not only to invest in companies with tangible assets but in those companies with intangible assets such as (1) brand equity; (2) management skills; (3) innovative capacity (R&D labs, design facilities); and (4) distribution networks (Buckley, 2009). Considering that the policy-making process allows the political visions of governments to be translated into programs and actions in order to deliver the outcomes (Cox, 2011, p. 75) - in this area of study, SWF as global factory enablers requires a deeper understanding of the process

because of its potential strategic ability to be a game-changer in the interactional arena for a nation.

Challenges in Shaping SWF Research into Global Factory Practice

SWFs are exposed to three different political arenas: (1) their domestic political arena (2) the national political arenas of recipient economies and (3) the arena of international public policy-making (Behrendt, 2009). As policy is a function of external or internal variables and must help explain, understand, interpret and organize data concerning the making and implementation of decisions by public bodies (Lane, 1988; Mulder et al., 2009 and Simmons et al., 1974), the creation of a roadmap for SWF as a global factory enabler is critical.

The policy and academic research of SWF is of recent interest to the UAE and triggered by the DP World takeover of the P&O Ports in 2006 and the financial crisis in 2008. Most of the existing studies on SWF can be classified around six key topics areas: motives, classifications or typology, performance, history, regulation and investment strategies as depicted in Table 2 (see Alhashel, 2015 for a comprehensive literature review). We need to encourage visibility of studies in this area beyond pure number crunching, as the results of such studies have been contradictory, mostly as they depend on the sample and time of reference.

Table 2: Approaches to SWF Research

Topic	Examples of Sub-topics of Study
Motives	Economic, political, investment strategies, power, reserve for foreign exchange surplus, hoarding of international assets by non-commodity-exporting countries which are running persistent current account surpluses.
Classifications	Motives – outcomes/formation – savings, stabilization or financing, formation, types of funds, size.
Performance	Performance of portfolio companies and impact of liquidity during Economic Crises especially 2008, AuM and their value, Share prices, benefits versus costs, impact of disinvestment on equity markets, P/E ratios, credit risk of portfolio companies, SWF versus Mutual Funds/Institutional Investors, shareholder returns (example Temasek Holdings)
History	Concept origination, historical development, origin - developed versus developing economies.
Regulation	Cases, International like Santiago Principle versus country regulations/ laws like USA's FINSA and CFIUS, for and against studies, transparency, taxation on SWF.
Investment Strategies	Host Countries (similar cultures, political considerations, investor market protection), diversification, asset choice, socio-economic returns, shareholder involvement, values based investment - example Norwegian SWF.

Source: Compiled by Authors looking at various papers.

SWF are (1) state-owned (2) have none or very limited explicit liabilities (3) separate from official foreign exchange reserves (4) have pools of assets owned and managed directly or indirectly by governments to achieve national objectives (5) autonomous and accountable only to governments or public sector institution and (6) mainly financed by foreign exchange revenues on commodity exports and/or transfers of foreign reserves from the Central Bank (Beck & Fidora 2008; Blundell-Wignall et al., 2008). Table 3 gives a classification of commonly used SWF categories.

Table 3: SWF Categories

Category	MNC perspective	Global Influence
Postcolonial SWF	The purpose is qualitatively to enhance their international legal sovereignty by investment in multinational firms or other non-governmental organizations in focus markets.	This will help limit derogation in the international market from the principles of mutual recognition as these investments possess significant if not inherent power in the global economy and political sphere.
Rentier SWF	The purpose is to be used for investments, which ensures that the external rents accrue to the government as the government manages them. Resource-rich countries often dominate these SWF.	This can be used to create a “social contract” which can be used to influence local political parties indirectly, quell opposition, and ensure the continuation of domestic sovereignty.
Productivist SWF	These investments are economically and socially complex occurring at global, regional and local levels and are aimed at capturing “value” like R&D and extending their strategic position in a globalized economy.	The focus is knowledge transfers and national competitiveness. Productivist SWF is a strategic investor.
Territorialist SWF	The rationale behind these funds is to support the competitiveness of local firms using market-based logic, by developing and ensuring the continued dominance of local assets within broader global networks of production, R&D, and distribution both at home and abroad.	This leads to national competitiveness. Territorialist SWF operates like Private Equity Investors (PEI).
Moralist SWF	The purpose is selective investments in line with national values and to project national reputation.	These SWF look for legitimacy in the eyes of its citizens and influences norms for ethical behavior in a global arena by projecting domestic sovereignty.

Source: Dixon et al. (2012)

Categorization of SWF is closely tied to motives, and these motives can differ according to the entity or author classifying the SWFs (Allen & Caruna, 2008 – from the IMF; Ping & Chao, 2009). These motives are of five types: (1) Stabilization Funds: the purpose is to help insulate the budget and economy from fluctuations in commodity price swings (mostly oil); (2) Saving Funds: The focus is to smooth intergenerational revenue, focusing on future generations and avoid Dutch disease by diversifying the portfolio; (3) Reserve Investment – the purpose is to invest in corporations whose assets can be considered as reserve assets and therefore increase return on reserves; (4) Development funds: the main purpose is to focus on funding socio-economic projects and promote policies that increase a country’s potential outputs preventing potential socio-economic crisis and; (5) Contingent pension reserve funds: here the source of funds is from other than individual pension contributions and is for contingent unspecified pension liabilities on the government’s balance sheet. The motives are not independent of each other rather, in reality; there is an overlap of motives across the classification. Also, because the transparency of SWF is not always high – this creates further complications in policy research (Bagnall & Truman, 2013).

Policy Implications for Enabling the Global Factory

Of the different types of SWF, those that are most likely to enable the global factory are the Productivist SWFs, which have a more developmental motive. They are more strategic in the time frame and have an agenda to support the overall government developmental strategy. SWF in this category must go through multiple steps to become part of the global factory. There are five key stages in this process as outlined below:

Stage 1: Identify areas of national priority and focus on socioeconomic areas for long-term development. For example, a challenge for many GCC SWF countries is the rising unemployment for youth, the need for diversification of the economy, need to increase knowledge transfer between expats and locals, increase security, improve the quality of life and to preserve heritage and culture. This step of prioritizing the national objectives and finding an MNC in a host country that can contribute to the home country national objective is critical, as host countries can veto investments and M&A, and the MNC may not have the required fit or potential to contribute back to national objectives in an appropriate time frame.

Stage 2: Financial investment into the corporation. The long-term goal is to increase the financial investment in MNC host country and get representation on the host country MNC Board and management. This process is lengthy – you need to build management and knowledge competencies in the industry and get an understanding of the global market dynamics. The objective is to grow the business. Much of this initial investment is in the form of FDI into the host country and MNC manufacturing and R&D centers. While it is easy to “buy” talent, the focus is always “knowledge transfer” back to SWF host country.

Stage 3: As the business grows so does the relationship with host countries, and MNC countries of operation. Future financial investments may involve M&A and agglomeration of smaller firms to create market leaders. This will allow knowledge transfer and the ability to get majority control in Board and Management decision making.

At this point the development of SWF host citizen

capabilities in the industry of focus is critical. You will need to develop a minimum number of innovators and experts in this industry to be able to lead and control auxiliary companies in SWF host country. By deputing home country citizens in host country MNC and its branch or subsidiary operations, you can facilitate faster knowledge transfer and keep talent ready for home country operations.

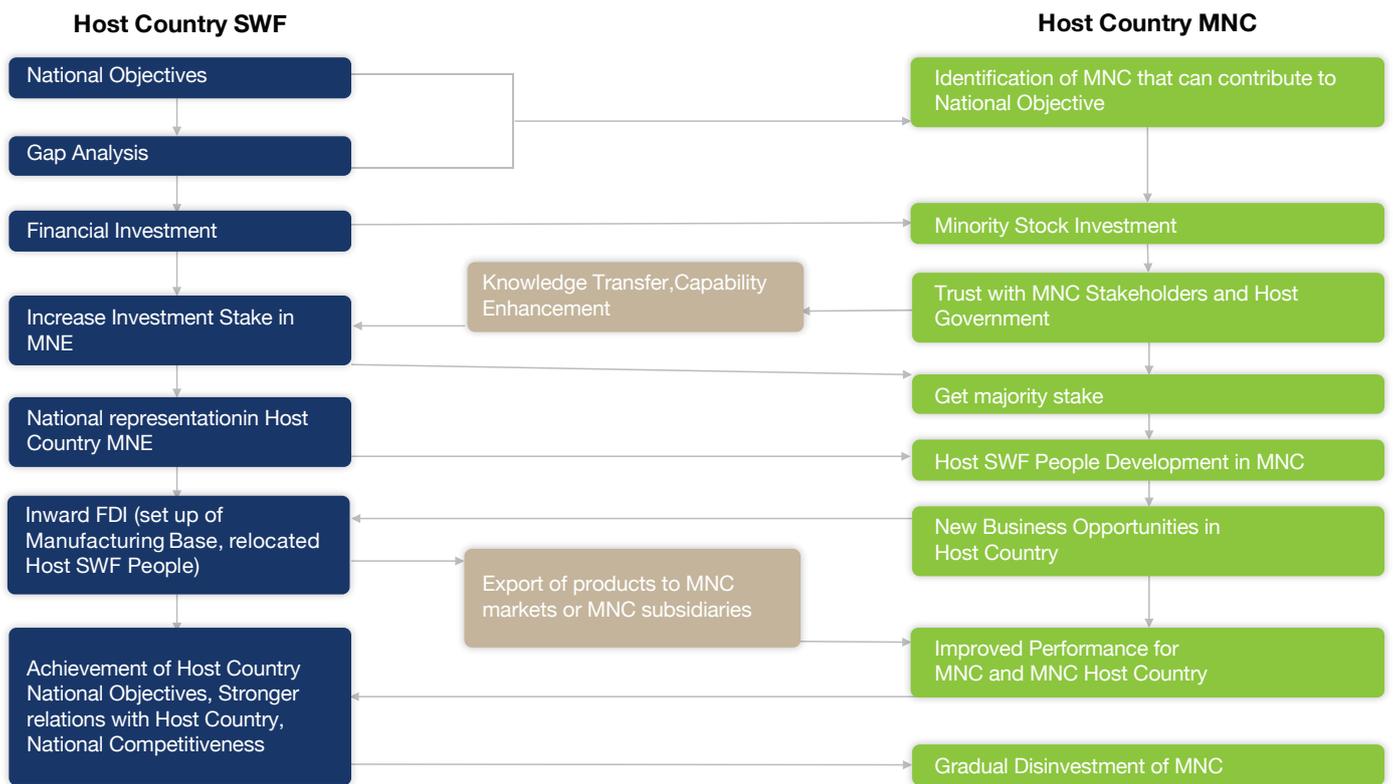
You will have to build the reputation with MNC, citizens of MNC HQ host country, in the countries of MNC operations and with SWF host country nationals. Following the financial crisis of 2008 and the adoption of the “Santiago Principles” (IWG, 2008), this problem was brought to the forefront for SWF wanting to invest in “critical” industries. They were under far more scrutiny than an average MNC or PEI firm.

Stage 4: Bring the MNC to SWF host country or create a subsidiary that will supply host country MNC. This allows the development of citizen capability, facilitates knowledge transfer, extends the global factory, provides employment and helps spinoff into an auxiliary industry. The focus here is to create a “hot-bed” of innovation. Now FDI is inward for SWF host country, and it would be able to change its national competitiveness in addition to achieving its objectives.

Stage 5: Ideally, gradual disinvestment would allow the firm to stand on its resources, but this is a sensitive stage. As an enabler, SWF builds and leaves MNCs with the capability to grow. You will have to make sure the MNC operations in the SWF host country are firmly embedded and have spillover effects in the industry at local, international and even global level. The timing is critical so as to not spook the markets especially if the company is public and to ensure a positive return on investment (ROI).

The process described above is outlined in Figure 1.

Figure 1: SWF as Enablers of the Global Factory: A Step by Step Approach



Source: Authors

Now with a broader focus on social responsibility and Sustainability Development Goals (SDGs), SWF may also have to look beyond its national borders to find ways to impact SDGs at an international level. This suggests the creation of a purpose-driven model broader than national objectives (see for example Halvorssen who looks at Norwegian SWF and how they address climate change).

While this is a simplistic approach to creating SWF enablers of the global factory, it hinges on knowledge transfer between the host and home countries and transfer of sticky capabilities. Sticky capabilities are those capabilities that are difficult to move across borders thus affecting the ability of knowledge sharing and its' management (Buckley 2009). The large spate of M&A for R&D capabilities is also a driver for SWF. Dunning and Lundan (2009, p. 25) state "This capability-acquiring R&D is often directed at regional or local clusters of innovation, which in the science-based

industries are often linked to public or private research centers, and where agglomeration by other firms from the same sector generates localized knowledge spillovers in the area. As a physical presence in such clusters is generally, the only means whereby access to local knowledge is obtained, and whereby any spillovers can be appropriated, the location specificity of such activity is extremely high and necessitates investments away from the home country."

Soft diplomacy is becoming a vital tool with investments in critical industries across borders as is the building of a global reputation. SWF often invest in countries with weaker bilateral ties (Knill, Lee and Mauck 2012) and follow the lines of foreign aid concerning soft diplomacy regarding "strategic interest" (Moyo 2009). SDGs and the impact of strategic alliances may also put SWF as a key advantage as they are not listed and perhaps may not be susceptible to the short-term interests of shareholders.

Conclusion

SWFs have a tremendous potential to act as enablers of the global factory. This topic, as such, is not an area of much academic or policy focus, primarily from the study of the strategic point of view. Therefore, it is paramount to identify areas of national priority and concentrate on socio-economic areas for long-term development and additionally, to promote planned financial investment into the global market opportunities. The potential benefits of viewing SWFs as a global factory are in increasing knowledge flows, technology prowess, trade, country-country relationships, FDI, market dominance, resource access, country reputation and socio-economic development of host and home countries.

Bibliography

Alhashel, B. (2015). Sovereign Wealth Funds: A literature review, *Journal of Economics and Business*, Volume 78, March–April 2015, Pages 1–13.

Allen, M. & Caruna, J. (2008). Sovereign Wealth Funds—A Work Agenda, International Monetary Fund. Dated 29 February, Available: <https://www.imf.org/external/np/pp/eng/2008/022908.pdf>. Accessed 6 January, 2016.

Bagnall, A. E., & Truman, E. M. (2013). Progress on Sovereign Wealth Fund Transparency and Accountability: An Updated SWF Scoreboard. Policy Brief, (13-19), 1-29.

Bazerman, M. H. 2005. Conducting influential research: The need for prescriptive implications. *Academy of Management Review*, 30: 25–31.

Beck, R. & Fidora, M. (2008). The impact of sovereign wealth funds on global financial markets. *Intereconomics* 43(6), 349-358.

Behrendt, S. (2009). Gulf Arab SWFs: managing wealth in turbulent times. Carnegie Endowment for International Peace.

Blundell-Wignall, A., Hu, Y. & Yermo, J. (2008). Sovereign Wealth and Pension Fund Issues. OECD. Working Papers on Insurance and Private Pensions, No. 14, OECD Publishing. doi:10.1787/243287223503 <http://www.oecd.org/finance/private-pensions/40345767.pdf>.

Buckley, P.J. (2009a). The impact of the global factory on economic development. *Journal of World Business*, 44(2), 131–143.

Cox, Y. (2011). Developing a Strategy for Implementation of Policy. In L. Coles & (Eds.), *Policy and Strategy for Improving Health and Wellbeing* (pp. 74-93). United Kingdom, UK: Sage Publication.

Dixon, A. D., & Monk, A.H.B. (2012). Rethinking the sovereign in sovereign wealth funds. *Transactions of the Institute of British Geographers*. 37(1), 104-117.

Dunning, J. H., & Lundan, S. M. (2009). The internationalization of corporate R&D: a review of the evidence and some policy implications for home countries. *Review of Policy Research*, 26(1-2), 13-33.

- Fernandes, N. (2009). Sovereign wealth funds: Investment choices and implications around the world. Available: http://haraldhau.com/Sovereign_Wealth_Funds.pdf. Accessed 6 June, 2016.
- Ferraro, F., Pfeffer, J., & Sutton, R. I. 2005. Economics language and assumptions: How theories can become self-fulfilling. *Academy of Management Review*, 30: 8–24.
- Gieve, J. (2009). Sovereign wealth funds and global imbalances. *Revue d'économie financière (English ed.)*, 9(1), 163–177.
- Ghemawat, P. and Altman, S. A. (2014), DHL Global Connectedness Index 2014 Source: http://www.dhl.com/content/dam/Campaigns/gci2014/dhl_gci_2014_merchandise_trade_cart-tab.jpg. Accessed 7 June, 2016.
- Halvorsen, A. M. (2010). International Law and Sustainable Development-Tools for Addressing Climate Change. *Denv. Journal of International Law & Policy*, 39, 397-420.
- ILO (2015). Multinational Enterprises. Available: <http://www.ilo.org/global/topics/employmentpromotion/multinational-enterprises/lang--en/index.htm>. Accessed 6 January, 2016.
- IWG, (2008). Sovereign wealth funds: Generally accepted principles and practices - Santiago principles. Tech. rep., International Working Group on Sovereign Wealth Funds.
- Jen, S., & Andreopoulos, S. (2008). SWFs: Growth Tempered—USD 10 Trillion by 2015. Morgan Stanley Global Research. Economics Report.
- Knill, A., Lee, B-S. & Mauck, N. (2012). Bilateral Political Relations and Sovereign Wealth Fund Investment. *Journal of Corporate Finance*, 18(1), 108- 23.
- Lane, J. E. (1988). Public policy models. *Statsvetenskaplig tidskrift*, 91(1), 54-74.
- Marti, E. and Scherer, A .G. (2016), Financial Regulation And Social Welfare: The Critical Contribution Of Management Theory. *Academy of Management Review* 2016, Vol. 41, No. 2, 298–323.
- Moyo, D. (2009). *Dead Aid: Why Aid Is Not Working and How There Is a Better Way for Africa*. Macmillan.
- Mulder, M. C. B., Sy, M. A. N., Lu, Y., & Das, M. U. S. (2009). Setting Up a Sovereign Wealth Fund: Some Policy and Operational Considerations (No. 9-179). International Monetary Fund.
- Munir, K. A. 2011. Financial crisis 2008–2009: What does the silence of institutional theorists tell us? *Journal of Management Inquiry*, 20(2): 114–117.
- Newman, J., Cherney, A., Head, B. W. (2016), Do Policy Makers use Academic Research? Reexamining the 'Two Communities' Theory or Research Utilization. *Public Administration Review*. Jan2016, Vol. 76 Issue 1, p24-32. 9p. DOI: 10.1111/puar.12464.
- Park, D. & Estrada, G. (2009). Developing Asia's Sovereign Wealth Funds and Outward Foreign Direct Investment, ADB Economics Working Paper Series, No. 169, <http://hdl.handle.net/11540/1821>. Accessed 6 January, 2016.

Ping, X. & Chao, C. (2009). The Theoretical Logic of Sovereign Wealth Funds. *Economic Research Journal* 2:002.

PwC 2015. State-Owned Enterprises Catalysts for public value creation? Available: <https://www.pwc.com/gx/en/psrc/publications/assets/pwc-state-owned-enterprise-psrc.pdf> Accessed 7 June, 2016.

Schneider, J. (2015), Looking Outside Education: Expanding Our Thinking about Moving Research into Practice, *Education Policy Analysis - Knowledge Mobilization, Archives*, Volume 23 Number 119 December 7, p. 1- 19.

Simmons, R. H., Davis, B. W., Chapman, R. J., & Sager, D. D. (1974). Making Public Administration Teaching and Theory Relevant, *Policy flow analysis: A conceptual model for comparative public policy research. The Western political quarterly*, 457-468.

Sovereign Wealth Fund Institute (2017), *Largest Sovereign Wealth Funds by Assets Under Management*, dated October 2017, downloaded [sovereign-wealth-fund-rankings](#). Accessed 2 November, 2017.

Storn, A. (2008). We Are Guests in Their House, Interview with Yngve Slyngstad, head of the Norwegian Sovereign Wealth Fund, in *Die Zeit* dated 13 March 2008, downloaded at www.zeit.de/2008/12/Staatsfonds-Interview-Deutsch?page=1. Accessed 11 January, 2016.

Thompson, D. F. 2008. Deliberative democratic theory and empirical political science. *Annual Review of Political Science*, 11: 497–520.

UNCTAD. 2015. *World Investment report 2015*, Available: http://unctad.org/en/PublicationsLibrary/wir2015_en.pdf. Accessed 5 January, 2016.

WIR. 2014. *World Investment Report 2014: INVESTING IN THE SDGs: AN ACTION PLAN*, Available http://unctad.org/en/PublicationsLibrary/wir2014_en.pdf . Accessed 2 February, 2016.

WIR. 2015. UNCTAD, Available: http://unctad.org/en/PublicationsLibrary/wir2015_en.pdf. Accessed 5 January, 2016.

Authors Biography

Professor Melodena Stephens Balakrishnan has over 25+ years of corporate and academic experience. She has lived in India, USA, Taiwan, UAE and Germany. She is a non-resident research fellow of MBRSG. Her corporate experience was in strategy - market potential estimation, market and product development, and joint venture negotiations. In academia, she is involved in strategic planning, accreditations, course development and industry outreach and has had various roles as Deputy Dean, Associate Professor and Program Director in the University of Wollongong in Dubai, one of UAE's oldest private universities. Recently, she has become the Dean and Professor in Karlsruhochschule International University, Karlsruhe, Germany and Head of the International Business Study Program. With the foundation and set-up of the Academy of International Business – Middle East North Africa chapter (AIBMENA) in 2009, she has facilitated the knowledge about the MENA region in the international research and education arena by the organization of six international conferences which brought together over 1200 participants, produced six books, hosted several workshops on research/case writing and publishing and organized and chaired several panels with industry, government and academic speakers. AIBMENA has been recognized by the Dubai Conventions Bureau as Brand Ambassadors for Dubai. She is a winner of several teaching and research grant awards, including two UAE National Research Foundation Grants. She has published over 130 articles which include academic journal articles, peer-reviewed articles and book chapters. Her areas of research are international strategy, branding, social entrepreneurship and crisis management.

Dr. Immanuel Azaad Moonesar R.D. is the Assistant Professor of Health Policy at MBRSG with research interest in public policy, healthcare management & leadership, maternal & child health, nutrition, and quality management. He has a Doctorate of Philosophy (PhD) in Health Services: Leadership (Superior Distinction) from Walden University, USA. He also a Registered Dietitian and holds a Master of Quality Management (Distinction) from the University of Wollongong Australia (UOW), a Postgraduate Diploma in Institutional Community Nutrition & Dietetics (Distinction) & a Bachelor of Science in Human Ecology: Nutrition and Dietetics from the University of West Indies (UWI), Trinidad & Tobago. He has published in over 80 publications in peer-reviewed journal articles, peer-reviewed international conferences, co-authored books and book chapters and policy briefs to date.



كلية محمد بن راشد
للإدارة الحكومية
MOHAMMED BIN RASHID
SCHOOL OF GOVERNMENT

Mohammed Bin Rashid School of Government
Convention Tower, Level 13, P.O. Box 72229, Dubai, UAE
Tel: +971 4 329 3290 - Fax: +971 4 329 3291
www.mbrsg.ae - info@mbrsg.ae

