

HARKING THE HOLOMOMIC OF PUBLIC-PRIVATE PARTNERSHIPS: A SOUNDING OF MCNAMARA'S WORLD BANK

Fred Amonya *

* Lyciar, Kampala and London
Contact details: P.O. Box 24474 Kampala, Uganda

Abstract

How to cite this paper: Amonya, F. (2020). Harking the holonomic of public-private partnerships: A sounding of McNamara's World Bank. *Corporate Governance and Organizational Behavior Review*, 4(2), 50-58. <http://doi.org/10.22495/cgobrv4i2p5>

Copyright © 2020 by Virtus Interpress.
All rights reserved

ISSN Online: 2521-1889
ISSN Print: 2521-1870

Received: 22.09.2020
Accepted: 16.11.2020

JEL Classification: F34, F55, F65, G15, G18, G28, H41, H54, I91, L98, N17, P35
DOI: 10.22495/cgobrv4i2p5

Public policy is analysis and synthesis. Yet communication straddles the two. The depth of analysis and rigour of synthesis is in tension with the efficacy of communication. Consequently, a strong policy requires a holonomic space that reduces tension. This paper illuminates that argument. It is a contrasted case study of two policy perspectives on Africa, motivated by the concept of public-private partnerships (PPP). The paper contrasts the nexus of Robert McNamara in the late sixties with the zeitgeist of the infrastructure gap at the unfolding of the new millennium. That contrast illuminates Africa's failure to capture the fundamentals of PPP. Africa sees PPP as a subject of finance, not efficiency. The concept has been reduced to a yawning gap in finance. And a key reason for that myopic view is that banner called infrastructure gap. That flaw reflects not just weakness in the agency of policy. It also yearns for a holonomic space of policy. McNamara benefitted from the post-war space. After this paper was drafted, COVID-19 struck the world. This pandemic offers space for Africa (and the world) to mould thrusts of policy comparable to McNamara's nexus.

Keywords: Public Policy, Public-Private Partnerships (PPP), Infrastructure, Dynamical Systems, Non-Ergodicity

Authors' individual contribution: The Author is responsible for all the contributions to the paper according to CRediT (Contributor Roles Taxonomy) standards.

Declaration of conflicting interests: The Author declares that there is no conflict of interest.

1. INTRODUCTION

The figure is \$93 billion. No, that was at the unfolding of the millennium. Now, a decade later, the tag is \$130-170 billion. These numbers capture attempts at measuring the financing gap of Africa's infrastructure. The first number followed a study by a consortium of development entities led by the World Bank and published under the title Africa Infrastructure Country Diagnostic (AICD) (Foster & Briceño-Garmendia, 2010) Turn to the range, \$130-170 billion. It was presented in the African Economic Outlook 2018, a flagship report of the African Development Bank (AfDB, 2018).

Let us ponder the move from a number to a range. How about if we moved farther and simply said, "we do not know"? We would be closer to the truth, and yet such a position would be unacceptable. Why?

The paper explores the question. More importantly, though, the paper exposes an opportunity missed in the quest to capture the financing gap. There was an opportunity to define PPP, not just as a tool for finance, but more importantly as a tool for efficiency. To that end, the dynamical challenge of Africa's infrastructure needed to be wrapped in a textual frame. Put

differently, the holonomic would have been a textual frame, not a number.

On the organisation of the paper, Section 2 pays homage to the orthodox hypothetico-deductive (H-D) world that requires a literature review in that place. Section 3 appeals to the reader to stop and ponder the ubiquitous word - case study. The epistemology of the explication of a case study (cf. deduction of H-D) motivates the methodology of phenomenological contrast of this paper. Section 4 harks into history for a foundation of the quest for the holonomic in the development of Africa. The section traces back to the defining days of Robert McNamara at the World Bank. McNamara identified a nexus of the challenges of Africa. The section discusses that nexus. The nexus is viewed as a limit cycle and analysed using the Fourier frame. The section provides the background for the complexity in communicating development policy in Africa. That complexity is addressed comparatively in Section 5. Look at Section 5 as a tension between McNamara's nexus and the infrastructure financing gap wrought from the AICD Transformation Report. Section 6 picks on that tension and draws out the opportunity missed to define PPP as a tool of efficiency. The section then ponders how PPP can be rescued. The closing in Section 7 is a reminder that in the illumination of the case study, the main outcome is the insight of questions arising - not an escape to the comfort of deduction.

2. LITERATURE REVIEW

The orthodox H-D world expects a literature review in this section. A review of literature sets the stage for a linear quest to fill a gap in the field of scholarship. But this paper is a case study - in its more exacting use (Amonya, 2016b). Literature is not concentrated but diffused. The objective of the paper is not to close a gap in a field of scholarship but to illuminate a pocket of reality. That way, questions arising from the case will illuminate diverse disciplines. The epistemology is explication not deduction (detailed in Section 3).

The diffused literature is summarised at the bottom of this section. First, this paper concerns the mechanics of policy, what is the state of scholarship on that mechanics? It is poor. The urge of policy as science is old. It harks back to Francis Bacon (1561-1626). Yet, Bacon argued that agents of science should lead the making of policy. Now turn from agency to structure. The first attempt at framing the process of policy happened after the War (Lasswell, 1971, 1951; Simon, 1957). This first attempt drew from common imagery. The challenge was finding a frame for the complex dynamical space of policy. That frame needed the physics of dynamical systems.

That scholarship runs in tandem with an attempt by the US government to draw systems thinking from engineering and biosciences to public policy (Hoos, 1983). At the same time, Samuelson

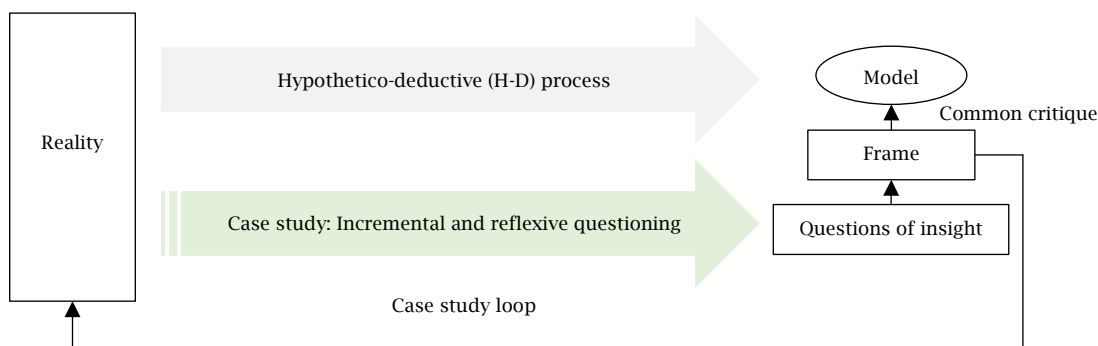
(1971) and contemporaries were drawing on biomathematics to illuminate economics.

To appreciate better the scholarship post-war, we need to invoke control theory. The central challenge is the complexity of state space. Post-war scholarship escaped to linearisation, albeit reluctantly (cf. "razor's edge", Samuelson, 1971). That escape allowed scholars to focus on output and input data. Staying with nonlinearity would have allowed the scholars to tackle the mechanisms of space control and hence advanced the science of policy. And that is the present challenge of scholarship - tackling nonlinearity through better control of state space. This paper is a nudge in that direction. It sheds light on dynamics that define the controls of Africa and regions with kindred young moulding states.

Now let us summarise the diffused literature. The anchor literature of Section 3 is the concept of knowledge as espoused by Polanyi (1962). Polanyi sees knowledge as a comprehension of reality. When the reality is complex and irreducible (cf. nonlinear and non-ergodic social spaces), the resort is illumination. That is the epistemology of the case study. Section 4 is built on the scholarship of Hirschman (*Hiding Hand*, 1967) and biographical material on Robert McNamara. Section 5 hinges on the empirical work of Foster and Briceño-Garmendia (2010) on infrastructure in Africa, done for the World Bank. The array of literature feeding those trunks is diffused across the three sections.

3. METHODOLOGY: CASE STUDY - A LIBERTY TO QUESTION

Polanyi (1962) defined knowledge as "comprehension of reality" (p. 6). How do we comprehend reality? The orthodox H-D process instructs us to find a phenomenon that can be hypothesized and deducted, forming a model (Figure 1). However, social reality is invariably too complex for such a reduction. That is the junction of challenge. Either we seek assumptions that remove the complexity, or we accept the complexity. For example, rational choice economics attempts the former as it seeks to fit in the H-D mould. However, many scholarly efforts will embrace complexity. That is the mould of the case study. The methodology seeks to question facets of reality continually as it illuminates the phenomenon. That is the approach of this paper. From the vantage point of infrastructure in contemporary Africa, the paper harks back to the McNamara time at the World Bank - seeking a vantage point to illuminate better the contemporary issues. The questions arising from this incremental-reflexive process constitute the main product of the paper. Note though, only a few of those questions will be captured in the paper. The bulk of the questions will arise from readers looking at the illuminated space, and from their vantage points ask, why? In a way, therefore, a case study is an embrace of complexity, and liberty to question.

Figure 1. The contrast of the case study and the H-D process

To appreciate the interaction between H-D and case study better, we need to look at the frame sitting between the two. A frame is a vector space of parameters with a boundary defined by the vantage point of the author. In contrast, a model is a specification of parameters. Therefore, frames are flexible - changing with the vantage point of the author (cf. the paradigm shift of Kuhn, 1970). Consequently, questions arising from the case study should prompt scholars to question their frames. As a result, scholars should go back and examine reality, and develop more case studies. It is a loop.

The interface between models and frames is less cordial. Models are rigid. Consequently, new parameters arising from frames cannot be absorbed easily. The new parameters are considered a challenge (a common critique) by authors of the models.

In summary, the Newtonian H-D approach has helped humanity to shape the physical world. The progress realised has allowed the H-D way to claim orthodoxy. However, the complexity of social space must prompt us to use the case study loop more often. Now, let us explore a capsule of social space.

4. BEACONS OF MCNAMARA AND HIRSCHMAN

When we hark back through history, we see a special platform of international development placed on a broader one. The special one is the International Development Association (IDA), whose articles of agreement were signed in 1960, an addition to the broader World Bank (then IBRD, 1944, and IFC, 1956). The African Development Bank followed in 1964. A giant of this epoch was Robert Strange McNamara, World Bank president of 1968-1981.

How does this history inform our view of crystals of communication (or apparent holonomic constraints)? Anyway, why do we need to bother about these facades of communication?

The latter is more difficult a question. Here is the reason: the dynamical space of development is intractable¹ and yet we must communicate a trajectory. Therefore, it is easy to be an apologist for the conscious use of incorrect figures - we do not know the correct ones. Perhaps the most fervent apologist was Albert Hirschman. In his *Hiding Hand* (1967), he argues the rationality² [and practice] of not knowing. In that argument, if we do not know

what is ahead, we should take a position of optimistic ignorance. Otherwise, we will not place a foot forward - projects will not start.

The thinking of Hirschman influenced the terrain of development. One of the strongest pieces of evidence is in a speech by James Wolfensohn - president of the World Bank 28 years after the publication of *Hiding Hand*. To Wolfensohn, Hirschman changed the view that "there was nothing that could not be reduced to numbers".

If the *Hiding Hand* captures established practice, why reflect on it at all? The answer has many dimensions. First, reflection and illumination of reality is the essence of scholarship. However, we have a more pragmatic and transactional reason. The facades of numbers are artefacts of project risk as we will see in Section 6.

Hirschman provided the initial frame for project evaluation at the World Bank in the early sixties (de Vries, 1987; Ardeni, 2014; Alacevich, 2016). A broad section of the Bank was hostile to the thinking of Hirschman. The ideas emphasised an uncertain space of investment and could not be used to produce an appraisal tool for the Bank.

In 1968, McNamara became president of the Bank. He was determined to see the scientific measurement of the effects of project investment³. Consequently, an evaluation function was created at the Bank. By the early seventies, systematic cost-benefit analysis (CBA) had emerged at the Bank.

The early CBA work at the Bank brought to surface the thinking of Hirschman and shows its resilience⁴. Hirschman did not draw dynamical systems in his analysis, but his work reflects the physics. While physics speaks to the truth of a nonlinear and non-ergodic investment space, organisations seek appraisal tools that can be used routinely. The prescription for non-ergodicity is incremental and reflexive. That prescription is too demanding on organisations and particularly the large ones like the Bank. It would require country staff along with government departments to review parameters of project appraisal continually. That call is too onerous for the Bank and recipient countries. Consequently, knowingly or not, projects of the Bank continue to rely on appraisal tools that are unrealistic.

Let us look deeper at what makes the investment non-ergodic and the present tools unrealistic, and to some users, a desperate quest for the holonomic.

¹ Detailed in Section 4.

² Flyvbjerg and Sunstein (2016) question the rigour of Hirschman's work but not its influence (for a face of that influence, see Wolfensohn, 2013).

³ Here we see resonance of McNamara's personal inclination to statistics (de Vries, 1987) and pressure from Congress (detailed in Alacevich, 2016).

⁴ Alacevich (2016) calls it "exceptionally resilient".

5. COMMUNICATING THE COMPLEX

The preceding section reminds us of the reality of the dynamical space of public investment. At the same time, we do not have the knowledge resources for an incremental and reflexive approach to appraisal demanded by the dynamical reality. Consequently, public organisations will seek satisfying holonomic tools as they pursue efficiency within the organisation. To put it differently, the public organisations will take a position that they may know is falsely provided the new tapestry reduces uncertainty. That sentence summarises the struggles of the World Bank with the arguments of Hirschman in the sixties.

Let us move from internal operational efficiency to communication. Is it inevitable that policymakers must also pursue the holonomic path? How can policymakers say, we do not know?

Let us compare two packages of communication. The first is McNamara's nexus and the other the \$93 billion banner (the widely publicised gap in annual infrastructure spending for Africa, starting 2009 and only fading now).

In 1991, Robert McNamara reflected on his effort at the World Bank and once again raised the nexus of Africa, challenges that seemed intractable (McNamara, 1991). We will shortly explain the nexus. First, let us recognise that the nexus dominated McNamara's time at the Bank (1968-1981), and instructed his reflections on leaving the Bank. We see it in his major reflective lectures (for another example, see McNamara, 1985).

Now let us define the nexus and explore its formation as a package of communication. The nexus comprised three strands of challenge, namely low agricultural productivity, rapid population growth, and environmental degradation. McNamara had the first two strands by his first address to the board of the Bank, six months after taking on the job. He spoke passionately about agriculture describing it as "the sector of greatest expansion in our five-year program [...], which has for so long been the stepchild of development". McNamara then summons bravery to tackle the population explosion. He labels the issue "...a thorny subject which it would be very much more convenient to leave alone". The two strands are captured in Figure 2. The defining subject of agriculture is seen better in Figure 3. Apart from a boost in energy (productivity) at the start of the new millennium, productivity has remained constant. Why? We must sympathise with the other two strands of the nexus - population explosion and environmental degradation. Recall, technology has improved exponentially worldwide, and Africa has not been shielded from that growth. On the contrary, in aspects of technological growth like mobile banking, Africa has led - and we should not struggle to see the link between that front of technology and agriculture. Therefore, we are taken back to the negative excitation of the population and the environment. More pertinently though, the plight of agriculture compels us to appreciate McNamara's nexus and the efficacy of the holonomic frame.

Figure 2. McNamara's nexus - The first two strands (agriculture and population)

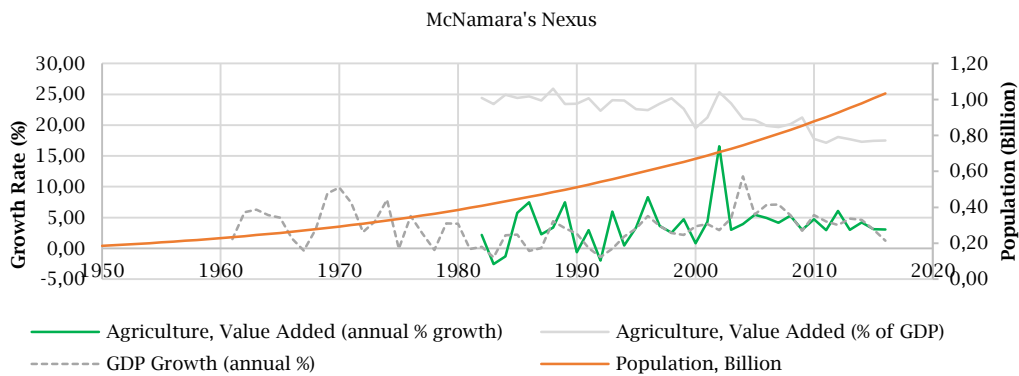
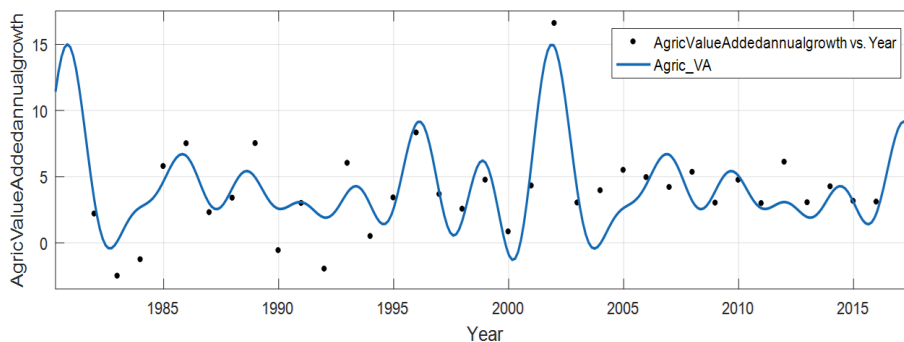


Figure 3. Agriculture, value added (% of GDP), eight Fourier harmonics



Model 1. General Model Fourier 8

$$f(x) = a_0 + a_1 * \cos(x * w) + b_1 * \sin(x * w) + a_2 * \cos(2 * x * w) + b_2 * \sin(2 * x * w) + a_3 * \cos(3 * x * w) + b_3 * \sin(3 * x * w) + a_4 * \cos(4 * x * w) + b_4 * \sin(4 * x * w) + a_5 * \cos(5 * x * w) + b_5 * \sin(5 * x * w) + a_6 * \cos(6 * x * w) + b_6 * \sin(6 * x * w) + a_7 * \cos(7 * x * w) + b_7 * \sin(7 * x * w) + a_8 * \cos(8 * x * w) + b_8 * \sin(8 * x * w)$$

Coefficients (with 95% confidence bounds):

$a_0 = 4.14 (3.096, 5.184); a_1 = 0.8949 (-2.488, 4.277); b_1 = 0.189 (-13.54, 13.92); a_2 = 0.1767 (-2.892, 3.246); b_2 = -0.09053 (-5.558, 5.377); a_3 = 1.16 (-59.01, 61.34) b_3 = 1.315 (-51.5, 54.13); a_4 = 1.345 (-95.48, 98.16) b_4 = 1.589 (-80.17, 83.35); a_5 = 0.3554 (-120, 120.7) b_5 = 1.582 (-25.55, 28.71); a_6 = -1.268 (-90, 87.47) b_6 = 0.9723 (-114.8, 116.8); a_7 = -0.7149 (-184, 182.6) b_7 = 1.719 (-74.37, 77.81); a_8 = 0.1007 (-232.9, 233.1) b_8 = 1.913 (-10.77, 14.59); w = 0.2983 (0.2907, 0.3059)$

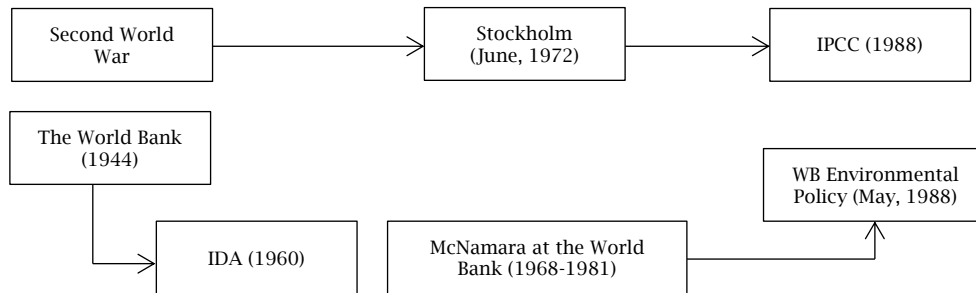
Goodness of fit: SSE: 129.9; R-square: 0.661; Adjusted R-square: 0.3219; RMSE: 2.764.

Note: Generated with MATLAB

To appreciate better the moulding of the nexus, let us look closer at the environment strand. On June 8, 1972, McNamara addressed the United Nations Conference on the Human Environment in

Stockholm (see a chronology of McNamara at the Bank by Huttlinger, 2012). It seems the Stockholm conference motivated his third strand of the nexus (cf. Figure 4).

Figure 4. Harking the third strand - Environmental concern



Therefore, McNamara had the two strands of the nexus at the onset of his presidency, but the third was weaved in the package by 1972 (motivated by the global green movement). For a decade thereafter, he pursued solutions to the nexus as president of the Bank.

Now let us look deeper at the \$93 billion banner (Finding 6 in Box 1). The report was dressed in the dictum *A Time for Transformation* (Foster & Briceño-Garmendia, 2010). Even though the report was summarised in ten findings, Finding 6 became the banner (e.g., Kim, 2017).

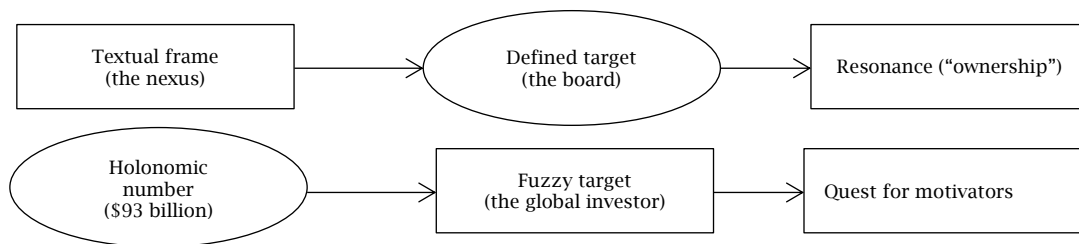
Box 1. Highlights of the Transformation Report

- Finding 5: Power is Africa's largest infrastructure challenge by far.*
- Finding 6: Africa's infrastructure spending needs at \$93 billion a year are more than double previous estimates by the commission for Africa.*
- Finding 7: The infrastructure challenge varies greatly by country type.*
- Finding 8: A large share of Africa's infrastructure is domestically financed.*
- Finding 9: After potential efficiency gains, Africa's infrastructure funding gap is \$31 billion a year, mostly in the power sector.*

Let us contrast the two communication packages, namely McNamara's nexus and the \$93 billion banner. To make a contrast, we need a common space. In this case, the common field is not just development. Layered on top are dynamical systems and non-ergodicity. Both packages encapsulate interlinked and moving issues, and hence we cannot draw a trajectory of any of

the issues. In addition, the packages are open to new intervening issues making them non-ergodic. For example, information technology weaved in the three strands of the nexus and the mechanics of delivering infrastructure (see Amonya, 2017, for details on non-ergodic policy systems). Now let us start the contrast by examining Figure 5.

Figure 5. Framing the communication package



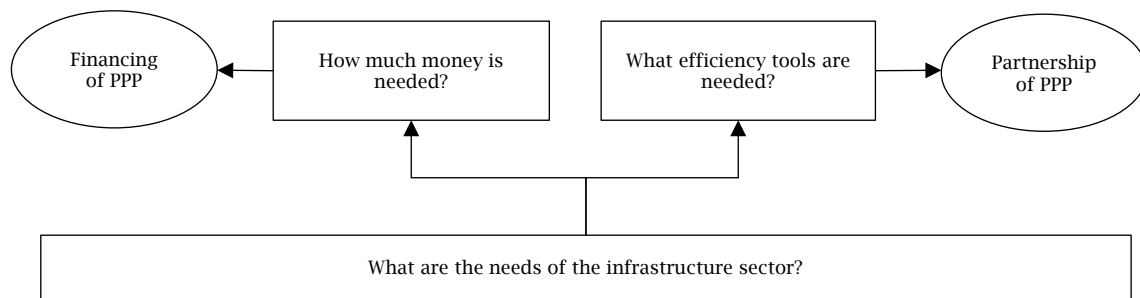
Let us look at the McNamara track (the nexus). Let us start by picking a frame of the man and the time. McNamara was not just another Malthusian page boy. He had Vietnam to his back, and it is reasonable to say that background provided him particularly high motivation to change the world for good (cf. McNamara & VanDeMark, 1995). Turn to the time. We see in Section 4 an organisation (the Bank) struggling to establish a yardstick for development action. Now let us turn to the inaugural speech to the board in September 1968. We can paint a man keen to make a huge difference, and yet not afraid to parody “panoply of statistics” as he staked out his nexus. McNamara had confidence in his textual frame and sought resonance from board members.

We will move on to the \$93 billion banner. Who created the banner? The report does not plant the single red banner that we have seen over the decade. On the contrary, the red flag of the report seems to be the efficiency challenge (the \$31 billion in Finding 9). The reason is simple, we never think of refilling a seriously leaking bucket before repair.

Therefore, it is not clear how that \$93 billion banner emerged, and we will leave it for future scholarship. However, we can tease out the effects of the banner.

We will use Figure 6. Suppose the main narrative had been the efficiency. On meeting the prevailing wave of PPP, that efficiency narrative might have focused the world on “partnerships for Africa”. Instead, the narrative went the opposite drawing attention to financing of PPP. That contrast is subtle but fundamentally distinct. It is subtle because private finance is seen as an incentive for efficiency. However, when we approach the challenge of infrastructure as one of efficiency, our appreciation of PPP broadens to the true extent and structure of the concept. That route would have led us to the core institutional (here we mean Northian institution, North, 1990) challenges of infrastructure. Moreover, the force of that route should have led the dialogue to the nexus of McNamara, which is still alive (Figure 2). Consequently, the PPP centres of Africa might now be tackling the challenge of sub-national PPP.

Figure 6. The Transformation Report: A taxonomy of narratives



Instead of efficiency, the narrative was finance. The challenge reduced to a search for “bankable” projects. Today, not a single PPP unit surveyed (the investigation leading to this paper surveyed over nine PPP units in Africa) has sub-national PPP as their lead concern. They concentrate on financing high outturn projects. Here is the tragedy, distressed high outturn projects are leading to a condemnation of PPP – which has been narrowly defined (see Amonya, 2017, for the case of Bujagali hydropower project in Uganda).

Let us hark the Transformation Report back to McNamara days. The efficiency challenge of the report could have yielded a textual frame on PPP. That would have been a response to the nexus, a challenge that lives with us. The fuzzy target of Figure 5 would have been replaced by the definite forum of the boards of the World Bank and

the African Development Bank. The age of PPP would have been painted.

How would the PPP banner above have changed the dialogue on the subject? Likely, it would have compelled more robust and deeper dialogue. The present narrow finance boundary would have been replaced by a broader frame including the entire economic spectrum of the countries. Put differently, PPP would have received the political energy it desperately needs. Let us be clear and note the global efforts on PPP guided by the World Bank (noting PPIAF and the wider UN umbrella). However, those efforts have lacked the concerted energy when compared to the nexus, and the associated poverty agenda.

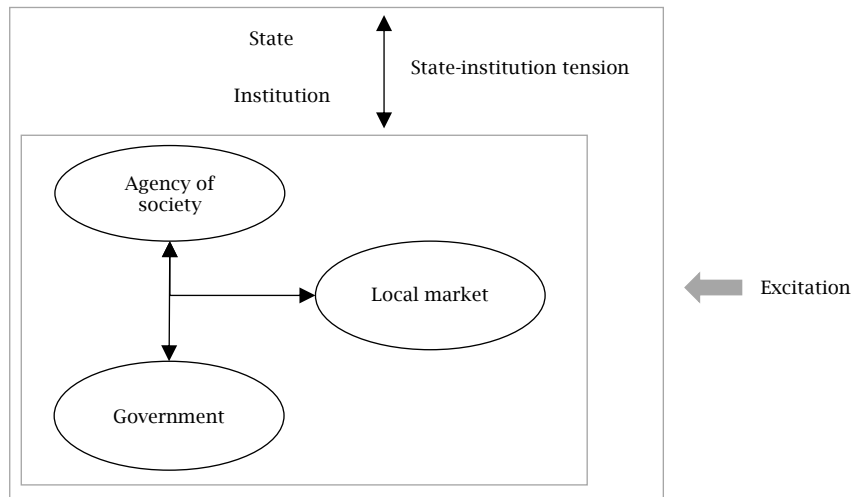
6. RESCUING PUBLIC-PRIVATE PARTNERSHIPS

So, where is the next opportunity for PPP? Can the concept be rescued? We cannot answer those questions definitively. Whether the concept is redeemable depends on the political energy available. That energy depends on the motivating issue. For example, we have had the multilateral order (the UN system) for nearly seven decades. The motivation of the Second World War has sustained that global structure. PPP does not need an

equivalent motivation but needs one, nonetheless. Now, should we say the questions cannot be answered exactly and so scholarship must abandon them? That would be remiss of us. Therefore, let us pan out the dynamics of PPP and tease out possible directions of the jolting forces.

Take the policy space in Figure 7. The local space is excited continually by global socio-economic and technological forces. Within that local space, we see PPP evolving.

Figure 7. Nodes of PPP



Let us focus closer on the local space. The Weberian state envelopes the space (Weber, 1964). However, the envelope of the state is continually in tension with the Northian institution of the country (this is composite set of norms and values of society, see North, 1990). Sometimes the institution pulls the state closer, attempting to reduce the control of the state. In some cases, we see a push out. This tension is often wrapped in the left-right narratives of politics. Here we remove the sheath and look deeper.

Let us see possible paths of PPP from three views.

View 1: this is the view of government. Can the government control the components of Figure 7, and motivate efficiency PPP⁵ for a long time, say over a decade? That is a challenge. Either actors of politics would be united on PPP or a domineering government aligned on PPP would last long. That means the government would defuse state-institution tension. Moreover, the government should have the strength to fend off negative excitations from the external world. Finally, the country would stand proud, providing inspiration to the world.

View 2: turn to the market. Many of the markets of Africa and kindred economies are nascent. Can they grow without creating tension with society? If so, the markets could be a defusing agent, interfacing with the state and society. However, the premise is an excitation aligned to PPP. Consequently, this path is unhelpful since we are searching for a jolting force for efficiency PPP, which we now need as a premise.

View 3: look at society. The main weapon of society is the vote. Therefore, we would assume the country considers the vote sacrosanct. That is a long shot.

Therefore, the government provides the most promising pedestal for efficiency PPP. However, any government will need resonance of the wider world. We are reminded of the opportunity that followed the Transformation Report. The response to that report could have been a textual frame of efficiency PPP, akin to the nexus of McNamara. It is an opportunity missed.

The foregoing argument is clearer when seen formally. Let us denote the system in Figure 7 as follows:

- Policy space (\mathcal{S}) comprises three nodes state (σ), society (χ), and market (κ).
- External effects e is a vector of technological and socio-economic forces striking the country.
- PPP as an evolution vector p .
- Northian institution, τ .
- Output y is a vector of socio-economic effects of PPP.

Change in policy space (\mathcal{S}) resulting from PPP investment (p) depends on the state (σ), society (χ) and market (κ), and the excitation function comprising external effects (e) and Northian institution (τ)⁶. Formally:

⁶ This inclusion of the Northian institution is better appreciated under the Lagrangian formalism where the institution features as a non-holonomic constraint. Note, the admission of the Northian institution in a dynamical system removes the convenient premise of Markovian property. Consequently, it leads to the acceptance of intractability [of policy path].

⁵ In contrast with the popular finance PPP.

$$\begin{cases} \dot{\mathbf{S}} = \mathbf{f}(\boldsymbol{\sigma}, \boldsymbol{\chi}, \boldsymbol{\kappa}, \mathbf{p}; \mathbf{e}, \tau, t) \\ \mathbf{y} = \mathbf{g}(\mathbf{S}; \mathbf{e}, \tau, t) \end{cases} \quad (1)$$

In keeping with convention, the lower-case bold type denotes vectors.

Equation (1) captures a non-ergodic situation. To remove intractability, we need the state to reduce all the constraints to a holonomic conduit of PPP desires. That is the argument of View 1 above. However, this formal space allows us to move beyond the “missed opportunity” and look closer at the existing dynamics of PPP. It allows us to ask piercing questions. For example:

1. Can the interaction of the state and institution lead to a fractal? That is, can we have a level of social appreciation of PPP that is repeated across the country, from high outturn national projects to smaller rural schemes?⁷

2. How could the fractals develop in unitary yet devolved governments versus federal settings? For example, this question is pertinent in studying PPP patterns in Kenya and Nigeria.

3. Such a fractal would imply an attractor. How do we maintain the system within the basin of attraction?

The first two questions attend to the *illumination* of the complex space of policy. The third attends to *linearization*. The final leg of the ILE frame is the *elimination* (Amony, 2017). The ILE frame brings us back from possible escapism of the complex dynamics of PPP – a snare that awaits transactional endeavours.

So, how can PPP be rescued? We do not have an exact answer. We have seen three views. The three views show that the tension between the state and institution will determine the next inspiring example of PPP at the country level. However, the most salient opportunity for a jolt of PPP will require a textual frame like McNamara’s nexus. The timing is a subject of serendipity, but the infrastructure diagnostic study of the last decade seems a lost opportunity.

7. CONCLUSION

We have seen two views of Africa spaced four decades apart. The first is McNamara’s nexus. It is reasonable to say, the nexus defines the World Bank

today (as an organisational structure). And that view emerged in a space created by the Second World War. The second view was inspired by the new millennium. The tag was infrastructure. The infrastructure view was reduced to a financing gap. The opportunity of capturing the deeper motivations of PPP was lost. The quest for finance eclipsed the urge for efficiency and the rediscovery of the institution (societal norms and values).

Beyond this paper, we must ask: should we venture out to the global post-war space of policy when confronted with concrete challenges like distresses in PPP projects? It is easy to say no. Instead of the complex global picture, Newtonian isolation is often luring. However, the long-term frame of PPP should force us out of any inertial frame of a Newtonian world. Once we are out on the post-war development terrain, we are faced with McNamara’s nexus. That holonomic frame prompted this paper to question the infrastructure effort of the past decade and the challenges of PPP today. Consequently, we find a missed opportunity to broaden the PPP dialogue using a frame of efficiency instead of one of finance. We do not know when the next opportunity will emerge. However, when we hark the holonomic, insightful questions arise piercing through local challenges of PPP. To borrow from Epstein (2008), “It’s the new questions [...] that produce huge advances” (point 1.15).

This paper was drafted before COVID-19. The pandemic provides the serendipity of space compared to the War. How will Africa (and the world) use that opportunity? That is an urgent question appealing to research. We need case studies that capture the unique attributes of different countries, showing how those countries could use the space following the pandemic. The lockdowns of COVID-19 and the heightened attention to the state should allow deeper interaction of the state, market, and society. And a crucial subject is the use of PPP as a philosophy of government, motivating efficiency in the provision of infrastructure.

⁷ The development of fractals would require the system to be well removed from its equilibrium (i.e., high entropy). Can state-institutional tension explain the requisite high entropy? Moreover, where is criticality in that framing and how does it depend on the parameters of the two structures (state and institution)?

REFERENCES

1. AfDB. (2018). *African economic outlook*. Retrieved from https://www.afdb.org/fileadmin/uploads/afdb/Documents/Publications/African_Economic_Outlook_2018_-_EN.pdf
2. Alacevich, M. (2016). Devising routines for project appraisal at the World Bank, 1945-197. In P. Scranton, & D. Raff (Eds.), *The emergence of routines: Entrepreneurship, organization, and business history*. <https://doi.org/10.1093/acprof:oso/9780198787761.003.0011>
3. Amony, F. (2016a). Public-private partnerships (PPP) on moulding state structures: The non-ergodic Africa. *Risk Governance and Control: Financial Markets & Institutions*, 6(4), 12-18. <http://dx.doi.org/10.22495/rcgv6i4art2>
4. Amony, F. (2016b). Parsing competitive dialogue in public-private partnerships: Emergence of capability search. *Transportation Research Procedia*, 25, 5291-5306. <https://doi.org/10.1016/j.trpro.2018.02.055>
5. Amony, F. (2017). *Policy space as a Lagrangian construct: Public-private partnerships (PPP) in Africa*. <https://doi.org/10.2139/ssrn.3022485>
6. Amony, F., & Okello, R. M. (2014). Sub-national public-private partnerships (SN-PPP): A prototype. *World Journal of Social Sciences*, 4(1), 176-195. Retrieved from https://www.researchgate.net/publication/283541631_Sub-National_Public-Private_Partnerships_SN-PPP_A-Prototype
7. Ardeni, P. G. (2014). *Being a consultant "expert" in a developing country: The legacy and lessons of Albert Hirschman* (Quaderni - Working Paper DSE (964)). <https://doi.org/10.6092/unibo/amsacta/4078>
8. de Vries, B. A. (1987). *Remaking the World Bank*. Washington, DC: Seven Locks Press.
9. Della Croce, R., & Yermo, J. (2013). *Institutional investors and infrastructure financing* (OECD Working Papers on Finance, Insurance and Private Pensions No. 36). Retrieved from http://www.oecd.org/daf/fin/private-pensions/WP_36_InstitutionalInvestorsAndInfrastructureFinancing.pdf
10. Epstein, J. M. (2008). Why model? *Journal of Artificial Societies and Social Simulation*, 11(4), 12. Retrieved from <http://jasss.soc.surrey.ac.uk/11/4/12.html>
11. Flyvbjerg, B., & Sunstein, C. R. (2016). The principle of the malevolent hiding hand; or, the planning fallacy writ large. *Social Research: An International Quarterly*, 83(4), 979-1004. <https://doi.org/10.2139/ssrn.2654217>
12. Foster, V., & Briceño-Garmendia, C. (2010). *Africa's infrastructure: A time for transformation*. <https://doi.org/10.1596/978-0-8213-8041-3>
13. Hirschman, A. O. (1967). The principle of the hiding hand. *National Affairs: The Public Interest*, 6, 10. Retrieved from https://www.nationalaffairs.com/public_interest/detail/the-principle-of-the-hiding-hand
14. Huttlinger, J. (2012). *Robert S. McNamara Personal Chronological Files*. Retrieved from <http://pubdocs.worldbank.org/en/326111383057012137/wbg-archives-1772420.pdf>
15. Kim, J. (2017, March 20). *Africa's next level of economic transformation*. Retrieved from <https://www.linkedin.com/pulse/africas-next-level-economic-transformation-jim-kim/>
16. Lasswell, H. D. (1951). The emerging conception of policy sciences. *Policy Sciences*, 1, 3-14. <https://doi.org/10.1007/BF00145189>
17. Lasswell, H. D. (1971). *Pre-view of policy sciences*. New York, NY: American Elsevier Publishing Company.
18. Leigland, J., & Russell, H. (2009). *Another lost decade? Effects of the financial crisis on project finance for infrastructure* (Gridlines No. 48). Retrieved from <http://hdl.handle.net/10986/10541>
19. Lepenies, P. H. (2008). Possibilism: An approach to problem-solving derived from the life and work of Albert O. Hirschman. *Development and Change*, 39(3), 437-459. <https://doi.org/10.1111/j.1467-7660.2008.00487.x>
20. Mayer, O. G. (1984). Development without miracles: The World Bank after forty years. *Intereconomics*, 19(4), 167-172. <https://doi.org/10.1007/BF02928331>
21. McNamara, R. S. (1968). *First address to the board of governors*. <https://doi.org/10.1596/25796>
22. McNamara, R. S. (1984). Time bomb or myth: The population problem. *Foreign Affairs*, 62(5), 1107-1131. <https://doi.org/10.2307/20042001>
23. McNamara, R. S. (1985). The challenges for Sub-Saharan Africa [John Crawford Memorial Lecture]. Washington D.C.
24. McNamara, R. S. (1991). Development crisis in Africa [Keynote, Copeland Lecture]. Washington, D.C. Institute on African Affairs.
25. McNamara, R. S., & VanDeMark, B. (1995). *In retrospect: The tragedy and lessons of Vietnam*. New York, NY: Random House.
26. North, C. D. (1990). *Institutions, institutional change, and economics performance*. <https://doi.org/10.1017/CBO9780511808678>
27. Orr, R. J., & Kennedy, J. R. (2008). Highlights of recent trends in global infrastructure: New players and revised game rules. *Transnational Corporations*, 17(1), 95-133. Retrieved from <https://gpc.stanford.edu/publications/highlights-recent-trends-global-infrastructure-new-players-and-revised-game-rules>
28. Ostrom, E. (2005). *Understanding institutional diversity*. Retrieved from http://wtf.tw/ref/ostrom_2005.pdf
29. Polanyi, M. (1962). *Personal knowledge: Towards a post-critical philosophy*. Retrieved from <https://bibliodiarq.files.wordpress.com/2015/09/polanyi-m-personal-knowledge-towards-a-post-critical-philosophy.pdf>
30. Regan, M., Smith, J., & Love, P. E. (2010). Impact of the capital market collapse on public-private partnership infrastructure projects. *Journal of Construction Engineering and Management*, 137(1), 6-16. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0000245](https://doi.org/10.1061/(ASCE)CO.1943-7862.0000245)
31. Samuelson, P. A. (1971). Generalized predator-prey oscillations in ecological and economic equilibrium. *Proceedings of the National Academy of Sciences*, 68(5), 980-983. <https://doi.org/10.1073/pnas.68.5.980>
32. Simon, H. A. (1957). *Models of man: Social and rational*. New York, NY: John Wiley and Sons.
33. Weber, M. (1964). *The theory of social and economic organisation*. New York, NY: Freedom Press.
34. Wolfensohn, J. (2013). Remembering Albert O. Hirschman [Video lectures]. Retrieved from <https://video.ias.edu/remembering-albert-o-hirschman-3-13>
35. Zongwe, D. P. (2010). The competitive edges of China's resource-for-infrastructure investment contracts in Africa. *Peking University Journal of Legal Studies*, 2, 227. Retrieved from https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1797222
36. Hoos, I. R. (1983). *Systems analysis in public policy: A critique* (Vol. 622). Berkeley, CA: University of California Press.
37. Kuhn, T. (1970). *The structure of scientific revolutions* (2nd ed.). Retrieved from <http://www.columbia.edu/cu/tract/projects/complexity-theory/kuhn-the-structure-of-scienc.pdf>