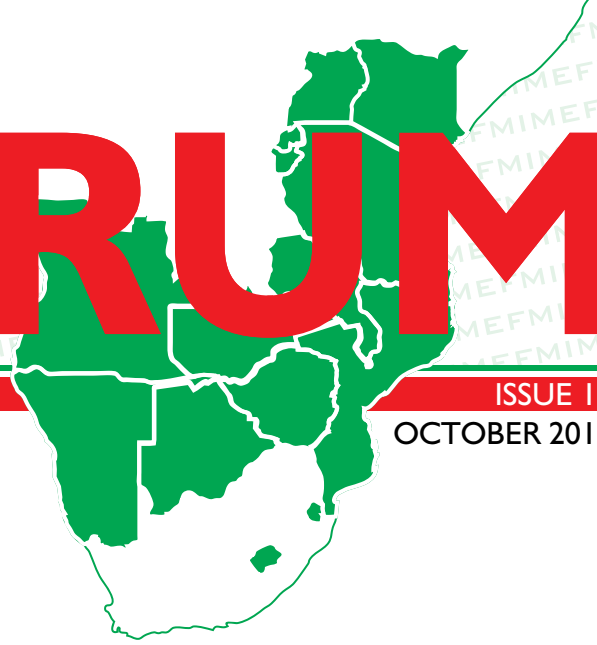
MEFMI FORUM



ISSUE 18
OCTOBER 2015

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Occasional papers published by MEFMI

MEFMI
Macroeconomic and Financial Management Institute of Eastern and Southern Africa

The Macroeconomic and Financial Management Institute of Eastern and Southern Africa (MEFMI) publishes the MEFMI FORUM in English.

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ISSN 2073 - 0055

GUIDELINES FOR THE MEFMI FORUM

The MEFMI Forum is a bi-annual newsletter of the Macroeconomic and Financial Management Institute of Eastern and Southern Africa (MEFMI). The Institute is a regionally owned capacity building organization that is headquartered in Harare - Zimbabwe. Its current country membership includes: Angola, Botswana, Burundi, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, Swaziland, Tanzania, Uganda, Zambia and Zimbabwe. MEFMI's mandate entails fostering best practices through strengthening of sustainable human and institutional capacities in key identified priority areas of debt management, financial sector management and broader macroeconomic management. Sharing and dissemination of pertinent information and experiences is one of the modes of delivery employed by the Institute. The Forum, among other traditional and new information technology-driven mechanisms, plays a pivotal part in this regard.

The overall aim of the Forum is to provide a widely accessible and informative media for the regular regional and international exchange of pertinent ideas, issues, speeches, experiences, new developments and sound or best practice.

Within this context, these guidelines are designed to:

- Inform stakeholders of the legal and institutional framework within which the Forum is published and disseminated;
- Provide editorial policy guidelines that set the required quality standards for the Forum; and,
- Lay down procedures for the sourcing and submission of contributions for publication in the Forum.

The Forum shall be published twice a year for the benefit of all MEFMI stakeholders. Contributions should be made in the English language. Contributions shall ordinarily be published on a continuous first-come-first-served basis, thus allowing for the deferring of some successful articles received late to subsequent issues of the Forum.

Contributions shall be published on a voluntary basis, with modest honoraria being paid to only defray personal expenses incurred. The terms of reference of MEFMI resource persons shall provide for customization of their presentations into short background papers for the MEFMI Forum articles. Special contributions may be occasionally commissioned on an exceptional case-by-case basis.

Contributions submitted for publication should be related to capacity building in macroeconomic and financial management. The contributions should be incisive, informative and as far as possible original, with proper acknowledgement of the work of others used, so as to avoid plagiarism. Contributions will only be published with the authors' consent and their acceptance of liability for content and implications of their contributions.

Personal details, such as authors' names, titles, designations, name of employers and recent photographs may be inserted into respective contributions for ease of identification and reference. The MEFMI website versions of the Forum issues shall have been appropriately adapted for ease

of access by all stakeholders under varying information technology capabilities.

The Editor-In-Chief shall reserve the right to decline to publish articles that are inconsistent with the above guidelines and / or to annul part or all of any honoraria that may be due to the affected contributions. The authors of articles published in the Forum are deemed to accept personal liability for the content and implications of materials they submit for publication.

MEFMI shall not under any circumstance be held liable for contributions published through the Forum, and a disclaimer to this effect shall be inserted into every issue of the Forum.

The MEFMI Forum shall be published and disseminated through the office of the Editor-In-Chief which is supported at various stages by the Editorial Committee from within the MEFMI Secretariat.

Prior written permission and /or acknowledged reference to the relevant issue of the Forum should be cited for any use of materials published in the Forum. The Forum shall be open for contributions and readership from a wide, diverse and expert stakeholder base from within the relevant MEFMI client institutions, member States, partners and other regional and international peers and networks.

The Forum shall be distributed to stakeholders and other relevant parties in hard copy and / or in electronic form, including through posting on the MEFMI website. In addition to complying with the editorial guidelines as set out above, contributions should meet the following specific criteria for eligibility for publication:

- Contributions should be relevant to macroeconomic and financial management;
- The contributions should be topical, analytical and applied than being of a purely research or theoretical slant;
- Contributions should be concise and brief, within a maximum limit of 5000 words, excluding diagrams and other necessary illustrations;
- Contributions need to properly acknowledge others' work, including appending of relevant bibliographies, references, etc;
- Where appropriate, prior clearance or authentication by employers or relevant authorities should be sought in cases where country-sensitive or country-specific information is involved.

Contributions should adhere to the following lay-out:

- Title
- Author and Designation
- Overview / Executive Summary / Preamble
- Introduction
- The issues
- Purpose / objective/s
- Methodology
- Scope
- Body
- Facts
- Analysis
- Interpretation
- Conclusion / Recommendations
- References using the Harvard style

There should be adherence to the following submission procedures:

- Meeting submission deadlines, i.e. articles should be received 2 months prior to date of next publication;
- Submission of contributions in both hard and soft /MS-Word copies.

FOREWORD BY THE EDITOR-IN-CHIEF

Like all world class capacity building institutions, MEFMI continues to regenerate and revitalise its products and services, including publications. As the Institute continues to strengthen its position as a think tank, a deliberate position has been taken to deepen the sources for articles and thrust for each issue of MEFMI Forum. Critical sources of information and contributions to the publication are MEFMI Fellows (Candidate, Graduate and Accredited). The Institute views MEFMI Forum as one of the best platforms that this group of experts in particular can use to sharpen their research and writing skills and more importantly share their finding with stakeholders and other interested parties.

Quality data and information enhances implementation of effective and appropriate policies at country level, while at the same time it increases the Institute's confidence in the data that is churned out by Fellows. Poor data quality may result in improper decisions, wrong interventions, thereby undermining the Institute's role in poverty reduction. Currently, there is growing attention by both member countries and development partners to strengthen research in MEFMI, utilisation of knowledge resident in Fellows and staff as well as enhance data quality in order to support country interventions so as to ensure continued improvement in the region's economic development.

As evident in both the 2015 Impact and Needs Assessment and the Mid-Term Review (MTR) reports, MEFMI's interventions have provided meaningful benefits to client institutions. However, research and publishing were identified as areas that still need to be enhanced

as they play a critical role to the body of knowledge. Accordingly, in line with the ethos of a world class capacity building institution, whose understanding and appreciation of research is deeply rooted in its work, MEFMI Forum will play a pivotal role in amplifying the Institute's research.

MEFMI appreciates that macroeconomic stability and financial sector soundness, efficiency and stability form essential parts of preconditions for rapid and sustained economic growth and good governance. In this regard, this issue of MEFMI Forum carries summaries of some of the research presentations as prepared by the 2015 Graduate and Accredited Fellows. This is a deliberate move which should see more of the research work done by MEFMI Fellows published and receiving wider exposure in member countries and beyond. By publishing research work by Fellows we are not only boosting their confidence, but we are also exhibiting to the world the depth of the rich knowledge and expertise that is resident in MEFMI client institutions.

Dr. Caleb M. Fundanga
Executive Director
MEFMI

PROPOSED REVISIONS TO CREDIT RISK CAPITAL STANDARDS: IMPLICATIONS FOR THE MEFMI REGION

An abridged version of the Discussion Paper presented at the 2015 MEFMI Fellows Graduation and Accreditation Ceremony

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Abstract

The Basel Committee on Banking Supervision (BCBS) recalibrates capital standards from time to time in an effort to strike an optimal trade-off between regulatory capital required to support assumed risks by banking institutions, and their continued ability to support the levers of the economy through funding economically justifiable projects. This ensures that capital standards are responsive to the dynamic universe of forms and nature of risks and that banking institutions operating in their jurisdictions are more resilient to endogenous and exogenous shocks. The pursuance of these goals has led regulators in the MEFMI region to implement the BCBS capital standards.

The MEFMI region is, however, at various stages of implementing the Basel II capital standards and economic development; wherein most countries are focusing on improving the living standards and economic prosperity of their populations. This paper assesses the impact of proposed revisions to the Basel II credit risk standardised approaches that were published in March 2015 for comments. The paper concludes that the latest proposals simplify and promote consistency in the implementation of capital standards in both complex and non-complex banking institutions. With simplicity, however, comes scope for arbitrage of the framework. As such supervisors in the MEFMI region must continue to champion the implementation of other credit risk measurement approaches with measurable, observable, and comparable risk drivers. Given the overarching objective of the BCBS capital standards of ensuring consistency in their implementation, the risk drivers must also be comparable across banks and jurisdictions.

1. Introduction

The banking system is the fulcrum of any economy as its prime function is to optimally distribute scarce capital resources from surplus units to deficit units. This intermediary role is mainly enabled, in a sustainable manner, by the capital held by banking institutions, i.e., its form and cost.

It is generally acceptable in literature that the cost of capital held by banking institutions has direct implications on the cost of intermediation and resultantly on the price of capital in an economy

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(Barajas, Adolfo et al, 2015) and (Schanz et al, 2011). As such, the price of capital has implications on economic growth and ultimately economic prosperity. This is mostly relevant to MEFMI member countries that have largely registered healthy expansion of their economies since the turn of the decade. Further, the MEFMI region is at various stages of implementing the BCBS capital standards, with a goal of improving economic stability for the overall benefit of their population. In this regard, it is critical that the region implements policies that foster these initiatives, including configuring its banking system to ensure that it contributes to the momentum gained to date. There is therefore need for an assessment of the implications of the proposed revisions of capital standards on the MEFMI region to inform policy makers of the potential impact of the revisions. This paper will assess the impact of the proposed changes to the credit risk framework on the MEFMI region.

The paper is organised as follows. Section 2 reviews some aspects of the banking systems in MEFMI member countries. Section 3 briefly reviews the proposed Basel II credit risk standardised approach revisions currently under discussion. Section 4 examines the implications of the proposal to the MEFMI region before concluding in section 5.

2. Some Aspects of Banking Systems in the MEFMI Region

The banking system in the MEFMI region and Africa in general has undergone massive transformations over the years in part due to financial sector reforms that were undertaken in the 1990's (Montfort, Mlachila et al, 2013). The reforms include introduction of prudential supervision and supervisory methodologies that are in line with best practice. These reforms coupled with low inter-connectedness of banking systems with the global economy led to banking systems in the region remaining largely resilient to the global financial crisis that began in 2007 in the USA. The resilience is mainly attributable to the low leverage, ample liquidity and little reliance on external funding. It is worth noting that some of the macro-prudential metrics now being proposed under Basel III were already in place in the MEFMI region. As noted by Kasekende et al. (2012), metrics such as the leverage ratio and some of the liquidity prescriptions under Basel III (BCBS, 2010) are already in the legislation of some MEFMI member countries.

Despite strong economic growth, the banking systems in most of the MEFMI member countries are still under developed in terms of products and services, and characterised by inefficient intermediation thereby serving only a proportion of their population. Impediments to the banking sector development include the small national markets, low income levels, weak creditor rights and judicial enforcement mechanisms, and information asymmetry between lenders and borrows in credit markets.

The banking system in the MEFMI region controlled assets in excess of US$161 billion as at 31 December 2013 and banking systems in member countries were adequately capitalised with capital adequacy ratios all above 12%. Angola's banking system is the largest in terms of assets in the MEFMI region while Lesotho has the smallest banking sector based on the same measure. The table below shows some selected indicators of the banking system in the MEFMI member countries.

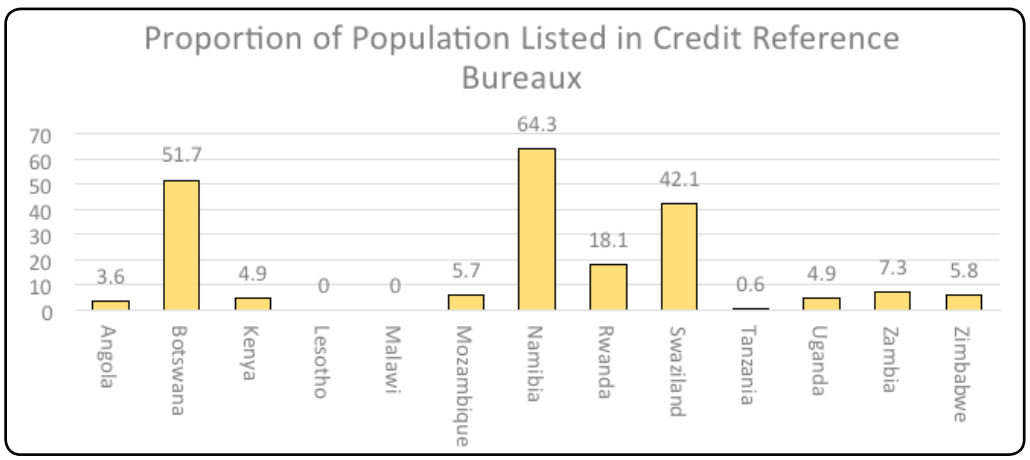
Table 1: Selected indicators for MEFMI member countries as at 31 December 2013

Country	Total Assets (US$ billion)	RWA (US$ billion)	CAR (%)	GDP (US$ billion)	Credit-to-GDP (%)
Angola	67.84	37.65	19.8	124.18	18.9
Botswana	6.90	4.34	19.3	14.78	13.6
Kenya	30.38	22.73	20.7	55.24	42.8
Lesotho	1.14	0.59	12.5	2.33	1.7
Malawi	1.40	0.95	19.1	3.71	31.2
Mozambique	12.13	7.54	15.1	15.63	29.3
Namibia	7.34	5.47	14.4	13.11	49.7
Rwanda	2.05	1.09	23.1	7.52	-
Swaziland	1.11	0.78	24.4	3.79	18.4
Tanzania	12.28	7.50	18.06	43.65	24.3
Uganda	6.24	4.50	22.9	24.7	16.3
Zambia	5.67	3.12	22.6	26.82	27.5
Zimbabwe	6.74	5.04	14.01	13.49	5.8

Source: Bank Supervision Annual Reports, Financial Stability Reports and Banking Review-Deloitte

The MEFMI region has largely underdeveloped credit information sharing arrangements. Efficient credit information sharing arrangements facilitate robust credit assessments and aid in mitigating over leveraging by borrowers in an economy. As a result of this lack, serious credit information asymmetry in credit markets exist and at times has resulted in over leveraging by individuals and corporates. In the region, Namibia, Botswana and Swaziland have made significant strides in information sharing in the financial sector as shown in the graph below.

Information asymmetry Credit Reference System



Source: World Bank database 2014

Status of Basel II Implementation in the MEFMI Region

Most jurisdictions in the MEFMI region have made significant strides in implementing the revised capital standards. All countries have at least implemented the Basel I credit risk approaches. Some supervisory authorities in the region, taking into account the limited demography of externally rated companies in their jurisdictions (which is a common phenomenon in the region), introduced certain modifications to the current Basel II credit risk standardised approach. An example in this regard is Zimbabwe. Its framework is, however, implicitly linked to external rating agencies' rating philosophy and is complex for a few small banks. Other regulatory authorities such as the Central Bank of Namibia have encouraged corporates in their jurisdictions to seek external ratings to facilitate efficient implementation of the Basel II framework. Bank of Botswana (BOB) took a phased approach in implementing Basel II. BOB published its draft regulations on the implementation of Basel II on 31 December 2013 and initiated parallel running of the Basel and Basel II framework from 1 January 2014. Botswana targeted full implementation in 2015 of the pillar I and pillar III of Basel II. The rollout of the pillar II framework is slated for 2016 in terms of the Bank of Botswana 2013 annual report. The Reserve Bank of Malawi issued guidelines with respect to all the three pillars of Basel II in 2013 including guidelines on stress testing and the banking sector has made significant strides in complying with the guidelines as reported in its 2013 annual report.

The table below summarises the level of Basel II credit risk standardised implementation by MEFMI member countries as at January 2014.

Table 2: MEFMI Region's Level of Implementation of Basel II Credit Risk Standardised Approaches

Country	Level of Implementation
Angola	Preparing draft regulations for discussions with the market
Botswana	Targeted full implementation by 2015
Kenya	On Basel II
Lesotho	Central Bank had finalised implementation plan
Malawi	Fully adopted except of two banking institutions
Mozambique	Fully adopted in 2014
Namibia	Fully adopted in 2010
Rwanda	Still on Basel I
Swaziland	Still on Basel I
Tanzania	Still on Basel I
Uganda	Still on Basel I
Zambia	Draft guidelines in place
Zimbabwe	Final rule published

Source: Financial Stability Institute 2014 Survey

Proposed Revisions

The Basel Committee on Banking Supervision is in the process of reviewing the Basel II Pillar I framework to incorporate lessons learnt during the global financial crisis and update it to the changed banking environment. The revisions are also aimed at contributing to a more resilient banking sector by enhancing the risk sensitivity of the capital framework.

It is, however, worth noting that the current proposed changes to the Basel II framework mainly relates to the Pillar I framework which outlines standards of computing credit, market and operational risk capital. The Basel II framework will still maintain the three pillars of Minimum Capital Requirements, Supervisory Review Process and Market Discipline.

Credit Risk Framework; *Rationale for the Review…*

Following the global financial crisis that began in USA in 2007, the Financial Stability Board (FSB) an international body that co-ordinates implementation of sound regulatory and supervisory standards that promote global financial stability, resolved that all reference to external rating agencies in capital standards be replaced by other consistent measures.

The revision is a realisation of the role played by external rating agencies in fomenting the global financial crisis. In the period that preceded the crisis, banking institutions over-relied on external credit rating agencies for risk management resulting in the sector technically sub-contracting their risk due diligence to the external rating agencies.

Further, the BCBS notes the lack of acceptable external ratings in some jurisdictions thereby compromising effective implementation of the current form of the Basel II credit risk standardised approach.

The Committee seeks to substantially improve the standardised approach for credit risk in a number of ways. These include reducing reliance on external credit ratings; increasing risk sensitivity; reducing national discretions; strengthening the link between the standardised approach and the internal ratings-based (IRB) approach; and enhancing comparability of capital requirements across banks.

The Proposed Framework; Exposures to Banking Institutions

The current Basel II credit risk standardised approach framework formalises two options for applying risk weights to exposures to banking institutions. Option 1 links a bank's risk weight to the sovereign rating of the country in which the bank is incorporated, while Option 2 applies the risk weight that corresponds to a bank's credit rating.

The proposed framework notes the lack of definition of the term "bank exposure" thereby compromising consistent implementation of the current framework across jurisdictions. A bank exposure is thus defined as a claim (including loans to, and senior debt instruments of, the bank) on any financial institution that is licensed to take deposits from the public, and is subject to prudential standards and level of supervision in accordance with the international practices relevant for such an institution. Based on results from empirical studies on efficient early warning indicators or risk drivers of bank failures, the BCBS proposes replacing the current reference to external credit rating agency ratings on banks by two risk factors (namely Non-performing

Assets (NPA) ratio and Common Equity Tier 1 ratio) with respect to exposures to banking institutions, corporate entities and security firms.

The framework has increased the risk coverage by increasing applicable risk weights from the current minimum and maximum of 20% and 150% to 30% and 300% respectively, for exposures to banks. Exposures to security firms that are subject to prudential supervision under the same prudential framework as banking institutions are also treated as exposures to banks. Exposures to security firms not subjected to prudential supervision as banks including insurance firms and other financial institutions are treated as exposures to corporates.

For exposures to banking institutions the framework proposes the two risk indicators, namely Non-performing Assets (NPA) ratio and Common Equity Tier 1 ratio. The NPA ratio is defined as:

$$\text{NPA} = \frac{\text{Non-performing earning assets}}{\text{Total earning assets}}$$

Risk weights would be determined on the basis of these two ratios as shown in the matrix below.

Table 3: Risk weights for exposures to banks

Risk weights for exposures to banks						
	CET1 ratio ≥ 12%	12% > CET1 ratio ≥ 9.5%	9.5% > CET1 ratio ≥ 7%	7% > CET1 ratio ≥ 5.5%	5.5% > CET1 ratio ≥ 4.5%	CET1 ratio < 4.5%
Net NPA ratio ≤ 1%	30%	40%	60%	80%	100%	300%
1% < Net NPA ratio ≤ 3%	45%	60%	80%	100%	120%	
Net NPA ratio > 3%	60%	80%	100%	120%	140%	

In order to reduce the impact of the revisions on interbank trading the Committee proposes preferential risk weights for short-term exposures to banks. To qualify, the exposure must have an original maturity of less than three (3) months and should not expect to be rolled over and have not been rolled over. For such exposures, the framework imposes a risk weight which is 20 percentage points lower than the required risk weight in the look-up table subject to a floor of 30%. This treatment is only applicable to exposures to banks that require a risk weight of below 100%.

Exposures to Corporates - *Senior Corporate Exposures*

In order to reduce the mechanistic reliance to external credit rating agency ratings, the Committee is proposing a framework that is similar to that of exposures to banks but customised to exposures to corporates. The framework for exposures to corporates includes exposures to security firms that are not subject to a similar prudential framework as banks and other financial firms such as insurance firms.

In settling for the effective risk drivers the committee sought risk drivers that efficiently predict corporate default. In this regard, exposures to corporate firms are determined based on two (2) risk factors, i.e. leverage and annual revenue based on the matrix below.

Table 4: Risk weights for senior debt corporate exposures

Risk weights for senior debt corporate exposures				
	Revenue ≤€5m	€5m<Revenue ≤€50m	€50m<Revenue ≤€1bn	Revenue>€1bn
1×≤Leverage≤3×	100%	90%	80%	60%
3×<Leverage≤5×	110%	100%	90%	70%
Leverage >5×	130%	120%	110%	90%
Negative equity	300%			

The risk weights are based on probability-of-default estimates and an assumed flat loss-given-default of 45%, consistent with the loss-given-default applied under foundation IRB and is based on the BCBS' studies. To compute leverage and revenue, banking institutions are required to use year-end financial results if available. If audited financial results are not available banks can use stated results subject to the bank's due diligence. If information that enables the calculation of the metrics is not available then a risk weight of 300% should be imposed, even if the non-availability is temporary. Start-up companies would be subjected to a risk weight of 110%.

Specialised Lending

To increase the granularity of the corporate treatment and to enhance consistency and comparability with the IRB approach, the Committee proposes to introduce a different treatment for specialised lending categories. For an exposure to a corporate to qualify as specialised lending, the exposure must be to a special purpose vehicle whose primary activity is to finance and or operate the funded asset. In addition, there must be positive correlation between the repayment capacity of the obligor and the value of the asset or project.

As in the IRB framework, the BCBS proposes to introduce five classes under the standardised approach's specialised lending. The classes are:

a. Project finance - is a method of funding in which the source of repayment and as security for the exposure is the revenue generated by a single project,
b. Object finance - refers to a method of funding the acquisition of physical assets (eg ships, aircraft, satellites, railcars and fleets) where the repayment of the exposure is dependent on the cash flow generated by the specific assets that have been financed and pledged or assigned to the lender.
c. Commodities finance - refers to structured short-term lending to finance reserves, inventories, or receivables of exchange-traded commodities (eg crude oil, metals or crops), where

the exposure will be repaid from the proceeds of the sale of the commodity and the borrower has no independent capacity to repay the exposure.

d. Income producing real estate (IPRE) - refers to a method of providing funding for real estate where the prospects for repayment and recovery on the exposure depend primarily on the cash flow generated by the asset. The primary source of the cash flow would generally be lease or rental payments or the sale of the asset. The distinguishing characteristic of IPRE versus other corporate exposures that are collateralised by real estate is the strong positive correlation between the prospects for repayment of the exposure and the prospects for recovery in the event of default, with both depending primarily on the cash flow generated by a property.

e. Land acquisition, development and construction lending - includes loans financing any of the land acquisition, development or construction of any properties where the source of repayment at origination of the exposure is either the future uncertain sale of the property or cash flow whose source is substantially uncertain.

The BCBS proposes that corporate exposures classified as project finance, object finance, commodities finance and income producing real estate be risk-weighted as follows:

Risk-Weight = max(Risk-weight applicable to the counterparty,120%)

For exposures classified as land acquisition, development and construction lending the following risk weighting function shall apply:

Risk-Weight = max(Risk-weight applicable to the counterparty,150%)

Subordinated debt, equity and other capital instruments

Current capital standards do not have direct provisions for the treatment of equity or subordinated debt issued by corporates. In this respect, the Committee proposes to enhance the risk sensitivity and coverage of capital standards by applying the same treatment to investments in equities or subordinated debt issues by banks, securities firms and corporates. Exposure in exchange equities that are traded on exchanges that are not deducted from capital are proposed to be risk-weighted at 300% and if not traded 400%. All other investments in subordinated debt other than equities is supposed to be risk weighted at 250%.

Retail Portfolio

For the retail portfolio there are no major changes to the current framework except a new 100% risk weight for retail exposures that do not meet the qualifying criteria for the current preferential risk-weight of 75%. Exposure to small businesses that do not meet the criteria is supposed to be risk-weighted as exposure to corporates.

Exposures secured by real estate

The current framework for exposure secured by residential mortgages applies risk weight based on the underlying collateral without regard to the risk of the counterparty. It categories exposure secured by real estate into exposure secured by residential real estate and

commercial real estate with one-size-fits all risk-weight of 35% and 100%, respectively. The framework was designed to encourage the provision of housing in economies but lessons from the global financial crisis have led to a re-visit into the blanket preferential risk weighting approach. In this regard, the framework is risk insensitive. The BCBS is proposing introducing two categories for exposure secured real estate under the corporate exposure's specialised finance as discussed above.

Residential Real Estate

Exposure secured by residential real estate that do not qualify to be classified as specialised finance must be risk-weighted as exposure secured by residential real estate subject to them meeting a qualifying criteria. To qualify for treatment as an exposure secured by residential real estate for risk weighting purposes the property securing the mortgage must meet the following operational requirements:

- The property must be finished. Jurisdictions have the discretion to include unfinished property provided the mortgage is for a one to four residential housing unit.
- The claim on the property must be legally enforceable within a reasonable time frame.
- The value of the property must be appraised independently of the bank's underwriting process and must be subject to a prudent conservative valuation criteria.

Generally, there must not be any correlation between income generated from the mortgaged property and the repayment capacity of the borrower. The borrower must have other sources of repayment that are independent to the property.

For exposure that meet the above criteria the framework proposes a new granulated risk-weighting framework, which is a function of the loan-to-value ratio and the debt-to-service-ratio if exposure is to an individual. The granularity increases the risk sensitivity of the framework under this asset class as shown below.

Table 5: Risk weights for exposures secured by real estate

	LTV <40%	40%≤LTV <60%	60%≤LTV <80%	80%≤LTV <90%	90%≤LTV <100%	LTV≥ 100%
Loans to individuals with [DSC ≤ 35%]	25%	30%	40%	50%	60%	80%
Other Loans	30%	40%	50%	70%	80%	100%

Exposure that fails to meet the operational requirements of specialised lending and exposure secured by residential real estate must be treated as unsecured exposure and risk-weighted as retail or corporate exposures.

Commercial Real Estate

Exposure- that is secured by commercial real estate that does not meet the criteria under specialised lending shall be risk weighted differently. In view of the challenges experienced by some countries with respect to commercial real estate the Committee is considering two options.

- Treating such exposure as unsecured exposure for risk-weighting purposes and subject them to the requisite risk-weight for the borrower.

- The second proposal is to risk-weight the exposures with respect to their LTVs provided they meet the minimum requirements. Generally, the risk of loan repayment must not be materially dependent upon the performance of, or income generated by, the property securing the mortgage, but rather on the underlying capacity of the borrower to repay the debt from other sources. Exposures that meet the criteria must be risk-weighted in-terms of the following table;

Table 6: Risk weights for exposures secured by commercial real estate

	LTV<60%	60%≤LTV<75%	75%≤LTV
Exposures secured by commercial real estate	75%	100%	120%

Where the minimum qualifying requirements are not met, the exposure will be considered unsecured and treated according to the counterparty, i.e. as "corporate" exposure or as "other retail". The framework encourages banking institutions not to rely on these measures only for risk management purposes but must also monitor other risk drivers for these exposures.

Credit risk mitigation framework under the standardised approach

The BCBS acknowledges that the current credit risk mitigation framework has weaknesses that require to be addressed to strengthen the capital standards. The weaknesses include complexity and a wide range of approaches which compromise the overarching objective of capital standards, which is, comparability across banks and jurisdictions.

The Basel II framework introduced the comprehensive approach which allows direct off-set of exposures with the market value of the underlying collateral subject to haircuts on the collateral value. The comprehensive approach is an additional alternative to the simple approach that allows banks, in recognising acceptable mitigation, to replace the risk weight of counterparties with that of the mitigation. The proposed framework maintains the simple approaches but is proposing changes to the comprehensive approach by reviewing some of the haircuts and acceptable forms of mitigation. In order to enhance standardisation of the framework, the Committee proposes the abolition of the use of internally developed estimates and models to determine applicable haircuts for collateral classes or the value of applicable mitigation. To accommodate jurisdictions such as the United States which are in the process of assessing methodologies of replacing all reference to external ratings in their capital standards the framework proposes an alternative approach which is based on the risk-weight of the counterparty and residual maturity of the security where applicable to determine the appropriate haircut.

4. Critical Assessment of the Capital Proposals

The Good…

Simplicity

The approach taken by some jurisdictions to encourage their corporates to seek external credit ratings to facilitate effective implementation of the Basel II credit risk standardised approaches assists in attaining the risk sensitivity goal

of the framework. The move, however, brings cost implications for the corporates operating in those jurisdictions with potential implications on competitiveness if this extra cost is not compensated by a corresponding reduction on their cost of borrowing. Further, jurisdictions that implemented the framework with limited corporates that are rated by acceptable external rating agencies generally maintained relatively comparable risk capital requirements to the Basel I framework.

The proposed revisions eliminates the requirement for external ratings in the corporate portfolio and hinges the framework on variables that do not require additional cost for corporates. Broadly, the revisions simplify standardised credit risk capital requirements for non-sophisticated banking institutions operating in jurisdictions that had made significant strides towards the implementation of Basel II.

Further, the BCBS framework being proposed is simple to implement and does not require major system changes in most banking institutions in the MEFMI region, as the current capital frameworks they are operating under (Basel I or Basel II) conform to the revisions being proposed. Further, changes in supervisory frameworks such as implementation of risk based supervision and issuance of supporting guidelines e.g. on risk management, corporate governance, among others, has led to improvements in risk management practices in banks in line with international best practice. This improvement in risk management frameworks in banks is the bedrock for the effective implementation of a risk driver based capital framework for credit risk.

Consistency

It is worth noting that most Regulatory Authorities in the region were at various stages of implementing Basel II and face an acute deficiency of quantitative skills necessary to supervise and ensure consistent implementation of the comprehensive approaches framework.

The proposed framework enables more consistent implementation of the framework across jurisdictions as it limits incidences of national discretion. Further, the removal of references to external credit rating agency ratings and replacing such a framework with that based on risk drivers enhances consistency and eliminates possible cherry picking of rating agencies in the acceptable set that may have divergent rating philosophies. Most jurisdictions in the MEFMI region are facing challenges regarding the treatment of mitigation under the comprehensive approach. The proposed changes of the comprehensive approach to treatment of mitigation simplifies implementation of capital standards in the region which is characterised by an acute deficiency of quantitative skills necessary to supervise the comprehensive approaches framework. The clarification of definitions such as exposures to a bank among others, also enhances consistency in the implementation of the framework.

Risk Sensitivity

As stated above, implementing the current Basel II standardised credit risk approaches in an economy with a limited number of corporates rated by acceptable external credit rating agencies is similar to maintaining the Basel I framework. Further, the revised framework proposes an improvement to the current one-size-fits-all approach under the risk-weighting of exposures collateralised by real estate.

This enhances the risk sensitivity of this asset class.

Increased Granularity

As outlined above the proposed framework offers a more granulated capital regime for countries with developing markets such as those in the MEFMI region. The most common form of collateral in these markets for lending to individuals is mortgage bonds. The current provisions of the framework allow a 35% preferential risk weight for exposure collateralised by real estate while exposure to individuals that do not qualify as retail portfolio are risk weighted 100%. This scenario therefore creates scope for capital arbitrage opportunities in cases where exposure to individuals that do not qualify to be treated as part of the retail portfolio are then collateralised by mortgage bonds resulting in a reduction in required capital without an actual corresponding reduction in real risk. The increased granularity therefore eliminates the arbitrage opportunity in the current framework and also makes it more risk sensitive.

Enhanced Resilience

Under the current framework risk weights range from 20% to 150% while under the proposed framework they range from 30% to 300%. Keeping all other things constant this measure increases risk capital requirements for banks with scope of even doubling current requirements. Using arguments by Schanz et. al and Caggiano & Calice (2011) increase in capital buffers is envisaged to increase the resilience of the banking system and reduce the probability and severity of systemic banking crises resulting in smaller output volatility, thereby leading to welfare gains.

The high capital ratios that banking institutions in the MEFMI region have may cushion them from potential capital demand. The framework would, however, reduce them from their current high level as the proposed framework is expected to increase the denominator of the capital adequacy ratio without affecting the numerator. Using an approach similar to that used by Caggiano & Calice (2011) the macroeconomic benefit of enhanced capital buffers is measured by the product of the reduction in the probability of a systemic crisis and maximum historically observed lost output as shown below.

$$\text{Benefit} = \Delta\text{Prob(crisis)} * \Delta\text{GDP}$$

The table below shows financial crises that occurred in MEFMI member countries between 1970 and 2008.

Table 7: Financial Crises Experienced in the MEFMI Region Between 1970-2008

Country	Banking Crises	Currency Crises	Debt Crises	Sovereign Crises
Angola		1991,1996	1988	1992
Botswana		1984		
Kenya	1985,1992	1993		
Lesotho		1985		
Malawi		1994	1982	1988
Mozambique	1987	1987	1984	1991
Namibia		1984		
Rwanda		1991		
Swaziland	1995	1985		
Tanzania	1987	1985,1990	1984	1992
Uganda	1994	1980,1988	1981	1993
Zambia	1995	1983,1989,1996	1983	1994
Zimbabwe	1995	1983,1991,1998,2003		

Source Laeven and Valencia (2010)

Using historically observed frequencies of financial crises over the 29 years recorded by Laeven and Valencia (2008 and 2010) the probability of a financial crisis in any country in any given year is 10.9% while the probability of a systemic banking crisis is 2.1%. This is lower than the frequency found for the rest of Africa of 2.7% by Caggiano & Calice (2011) and advanced economies of 4.1% by Laeven and Valencia (2008) using historical data spanning 1985-2009. According to Laeven and Valencia (2008) Kenya is the country that experienced the greatest loss of output due to a systemic banking crisis of 23.1%, in the MEFMI region. Therefore, a percentage reduction in the probability of a systemic crisis in the region will result in a benefit of 0.23% of GDP saving per year.

Potential Pit-falls of the Proposed Framework…

Regulatory arbitrage opportunities…

The proposals of the new framework offer a simplified approach to implementing the framework in a more consistent manner. With simplicity, however, comes the risk to arbitrage the framework. There is still scope for arbitraging the framework where exposures to individuals that do not qualify to be treated as part of the retail portfolio can offer residential property as collateral. The debt-to-service ratio maybe much higher than 35% (even at ratios of above 100%) with a loan-to-value ratio of less than 40% the exposure would get a risk weighting of 30% despite the high inherent risk. By this construction arbitrage opportunity still exists.

Risk Measurement…

As with the previous standardised

approaches framework that led to overreliance on external credit rating agencies by banking institutions over time, banking institutions may also in the long run over rely on the above proposed simplified measures for risk weighting as the only defacto measures of asset quality. This may compromise effective credit risk analysis by banking institutions through narrowing its review to these parameters. It must be noted that despite the framework replacing ratings as an efficient measure of risk in the proposed credit risk standardised approaches framework, ratings remain an important risk management tool in banking as highlighted in the BCBS' sound principles of credit risk.

As such supervisors in the MEFMI region must continue to champion the implementation of other credit risk measurement approaches such as the use of internal credit risk rating systems. This enhances the transparency of inherent risks in credit risk assets. For example under the corporate exposures, though, leverage and revenue are good risk indicators a firm can have robust indicators and still default due to say a lost legal suit that makes the firm insolvent. There are, therefore, other risk drivers that still require monitoring such as legal cases against the obligor, competition from other players in the market, etc.

Desirable properties of risk drivers for risk-weighting in capital standards

Borrowing from measure theory in abstract mathematics, the desirable properties of risk drivers that are efficient in risk-weighting in capital standards include:

a) Measurability

The risk drivers must be measurable in order to differentiate the quantity of risk in different assets and facilitate risk ranking. Measurable risk drivers include leverage, NPA ratio among others.

b) Observability

The risk drivers must be observable overtime. They must allow supervisors to update them periodically and internally risk managers within banking institutions must be able to more frequently than supervisors if possible update the risk drivers to enable capital computation. Therefore the risk drivers must be leading indicators and not lagged indicators of risk.

c) Comparability

Due to the overarching objective of the BCBS capital standards of ensuring consistency in their implementation, the risk drivers must also be comparable across banks and jurisdictions.

Observability of Some Risk Drivers

Given the structure of credit markets in the MEFMI region, as described above, most jurisdictions have serious information asymmetries and regulators and supervisors are currently in the process of putting in place mechanisms to bridge this gap. The measures include the creation of credit reference bureaux that store both positive and negative information on borrowers in the economy. The absence of an efficient credit reference system in any credit economy facilitates adverse selection of borrowers among other adverse consequences.

As noted by BCBS (BCBS, 2015) that the implementation of the risk drivers approach to the determination of risk weights for exposures to individuals that are secured by residential real estate requires a robust credit reference system to enable regular update of the debt-to-service ratio. At origination the debt-to-service ratio can be determined, though not independently, from the borrower and generally this is based on validated income sources through bank account inflows. Where the asymmetry gap kicks in is on the level of the borrower's indebtedness on origination and its continual update. An efficient credit reference system, bridges this gap by providing a reservoir of timely data on indebtedness of borrowers in the economy. In this regard, the lack of efficient credit reference systems in the region hampers the observability of the debt-to-service ratio which may result in a "long memory" framework, that is, a framework which when once updated takes time to be refreshed. This will militate against the risk sensitivity both in a cross section and time dimension sense.

Banking Sector Support to the Economy

The proposed re-calibration of the framework from a maximum applicable risk weight of 150% to 300% on exposures to corporates has the potential of doubling capital requirements for some banking institutions or banking systems as a whole under this asset class, holding all else constant. Most economies in the MEFMI region are driven by SMEs and small Corporates which in most cases do not have updated audited financials. This could result in some corporates being excluded from accessing credit or required to pay more on their loans. If this phenomenon becomes extensive it may result in increased costs to the economy as they pass on the additional costs to consumers and thereby impacting their competitiveness. Further, the framework punishes small corporates that have low turnover of less than €5 million, as exposure to such corporates are risk weighted at a minimum of 100%. A review of leverage ratios of companies listed on stock exchanges in some MEFMI member countries noted that some exchanges like the Zimbabwe Stock Exchange (Jambawo, 2014) have corporates with low leverage while some like the Nairobi Stock Exchange have some highly leveraged corporates (Mwangi et. Al, 2014). In this regard the impact of the recalibration will differ across the region due to the difference in leverage levels of corporates operating in those economies.

5. Conclusion

From the fore-going it is recommended that regulators and supervisors in the MEFMI region should implement the current proposals as they offer a simplified

framework that enables consistency in implementation in both complex and non-complex banking institutions. Simplicity, however, creates scope for capital arbitrage. It is therefore critical for regulators and supervisors in the MEFMI region to sustain the momentum already gained in implementing regulatory and supervisory tools and methodologies such as risk based and consolidated supervision which are critical for effective implementation of Pillar II of Capital Standards. Further, these tools are primary to the effective implementation of capital standards and a more resilient banking system.

It must also be noted that internal rating systems still remain an integral component of credit risk management in banking institutions. In this regard, it is recommended that supervisors and regulators should continue to champion their effective implementation in banking institutions.

With respect to exposures secured by residential real estate that do not qualify for treatment under specialised lending it is recommended that BCBS and the MEFMI region in particular must consider imposing a requirement that for the framework to apply the loan must be for the purposes of purchasing the underlying collateralising property. This eliminates scope for arbitrage as discussed above.

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FDI COMPONENTS IN SELECTED MEFMI COUNTRIES: THE ROLE OF INSTITUTIONAL QUALITY

An abridged version of the Discussion Paper presented at the 2015 MEFMI Fellows Accreditation Ceremony

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Abstract

Foreign Direct Investment (FDI) inflows in MEFMI countries continue to be low, relative to other regions of the world, despite notable progress made towards achieving relative macroeconomic growth and stability. Controlling for macroeconomic and other major drivers, this study contributes to the body of knowledge by examining the role of institutional quality (property rights, political stability, and economic and investment freedom) in driving equity and debt components of FDI in selected MEFMI member countries (Kenya, Lesotho, Malawi, Mozambique, Tanzania, Uganda, and Zambia) for the period 1995-2012. The study employs Fedderke (2002) portfolio theoretical model, via a panel Vector Error Correction framework. The findings show that institutional quality plays a key role in driving equity and debt components of FDI, though variations exist on selected factors and their degrees of elasticity. While political stability has a positive effect on both components of FDI, the impact on inter-company debt is generally more than twice the equity. Investment freedom has a positive and significant effect on equity but insignificant effect on the inter-company debt component. Property rights were found to have a significant positive effect on inter-company debt component but insignificant effect on equity. The role of economic freedom is direct, positive and significant on inter-company debt, while its impact on equity is indirect, positive but significant via its effect on real GDP.

To stimulate the equity component which is highly desirable, efforts in MEFMI member countries should be focused on maintaining not only macroeconomic growth and stability but also strengthening institutional quality and reducing uncertainty and transaction costs associated with weak institutions. Priority should be laid at maintaining political stability, and fostering investment and economic freedom. This entails avoiding political uncertainty, removal of investment restrictions, and promoting regulatory efficiency and open markets through credible institutional and policy reforms. In order to enhance the intercompany debt component, improvements in property rights, through enforcement of the rule of law, curbing of corruption and enforcement of contracts is critical.

Key words: FDI Equity, FDI Debt, Institutional Quality, MEFMI Countries

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1. INTRODUCTION

1.1 Background

It is generally argued that Foreign Direct Investment (FDI) is important for job creation, productivity improvement through technology transfer, management of spill-overs and economic growth, particularly for low income countries. Foreign Direct Investment inflows in most Sub-Saharan African (SSA) countries, including the MEFMI region continue to be low relative to other regions of the world, despite notable progress made towards achieving relative macroeconomic growth and stability. While other studies[2] have extensively analysed the macroeconomic and other drivers of FDI flows, the role of institutional factors has been underexplored.

This study contributes to the body of knowledge by examining the role of institutional quality in driving equity and debt components of FDI in the MEFMI region.

As part of the broader balance of payments accounting framework for summarising an economy's transactions with the rest of the world, FDI comprises not only the initial transaction establishing the relationship between a foreign direct investor and the resident direct investment enterprise, but also all subsequent transactions between them. Foreign direct investment flows comprise:

- **Equity Capital:** equity, shares, and other capital contributions.
- **Reinvested Earnings:** the direct investor's share of earnings not distributed as dividends and earnings of wholly owned branches not remitted to the direct investor.
- **Other Capital (or intercompany debt transactions)**: the borrowing and lending of funds between direct investors and subsidiaries, branches and associates (Jacob, 2012).

The three components of FDI flows are evidently conceptually quite different and consequently, analysing the drivers of each of the components is critical in understanding what accounts for variation in overall FDI inflows. In this study, due to data limitations, FDI is split into two main components; i.e. Equity (comprising equity capital plus retained earnings) and intercompany borrowing (FDI Debt). In the context of macroeconomic management in general and exchange rate management in particular, equity (equity capital plus retained earnings) is preferred to the debt component by recipient economies. The debt component is likely to create higher exchange rate management risks than equity, particularly when debt service payments fall due.

Seven (7) MEFMI member countries (Kenya, Lesotho, Malawi, Mozambique, Tanzania, Uganda, and Zambia) were selected for the study covering the period 1995-2012. The choice of countries is guided by both the availability of disaggregated FDI data (largely from FPC Surveys conducted by member countries in recent years) as well as the need to balance the composition. Mozambique, Tanzania and Zambia are predominantly natural resource rich countries while Kenya, Malawi, Lesotho and Uganda are mostly non-resource rich countries. The study period is chosen as guided by availability of disaggregated FDI data and institutional variables for the selected countries.

[2]See, Schneider and Frey (1985), Recep, K. and Bernur, A. (2009).

1.2 Statement of the Problem

Inward FDI inflows in MEFMI member countries has remained low relative to other regions of the world, despite strides made towards attaining relative macroeconomic growth and stability. For instance, the Southern Africa Development Community (SADC) Harmonised CPI publication for October 2014, shows that all SADC countries (predominantly MEFMI)[3], had their inflation rates in single digit levels except Malawi. In addition, in the last decade, growth in Sub Saharan Africa (SSA) has equally been robust at around 5.0%. The UNCTAD World Investment Report data for 2013 shows that MEFMI countries accounted for only 0.3% of the stock of global FDI which is about half the global FDI share of South Africa alone. Despite robust macroeconomic developments, FDI flows to SADC and SSA in general have remained low. Institutional quality ratings in these regions have been relatively low *(see World Bank Global Governance Indicators 2014 and Heritage Foundation/ Wall Street Journal 2014)*.

In most studies, FDI data is often appraised as if it consists exclusively of new equity flows, when in fact it also includes reinvested earnings and short-term and long-term intra-company debt flows. These components, however, have varying macroeconomic effects, particularly with respect to impact on exchange rate stability. While a number of empirical studies have analysed aggregate FDI as a single variable and the role of institutional factors, the role of institutional factors in driving the equity and debt components of FDI has been underexplored. This study contributes to the body of knowledge on the role of institutional factors in driving the equity and debt components of FDI.

[3]Majority of SADC countries are also MEFMI member countries.

1.3 Research Questions

The following research questions were addressed:

- What is the role of political stability in stimulating FDI equity and FDI debt?
- What is the response of equity and debt components of FDI to variations in economic and investment freedom?
- What is the impact of property rights on FDI equity and FDI debt?
- What are the policy options to stimulate and sustain the equity and debt components of FDI through the institutional channel?

1.4 Objectives of the Study

The main objective of the study was to examine the role of institutional quality in driving equity and debt components of FDI. Specifically, the study focused on examining the following:

- The role of political stability and absence of violence/terrorism in stimulating equity and debt components of FDI;
- The responsiveness of equity and debt components of FDI to variations in economic and investment freedom;
- The impact of property rights, on equity and debt components of FDI; and
- Policy implication on how to stimulate and sustain the equity and debt components of FDI, via the institutional channel.

1.5 Significance of the Study

The study is critical as it helps in guiding investment policy on how Governments, through their investment promotion agencies, can stimulate the equity and debt components of FDI through the institutional channel. The findings are important in providing policy options on how to enhance and ensure stability of FDI

inflows in MEFMI member countries by reducing the uncertainty and transaction costs associated with weak institutions.

1.6 Major Findings and Contribution

Using a panel VEC framework[4] and controlling for macroeconomic and other drivers, the findings show that institutional quality factors are critical drivers of equity and debt components of FDI, though there are differences in the role of selected factors and their degrees of elasticity. While political stability has a strong and positive effect on both components of FDI, the impact on intercompany debt component is generally more than twice higher than on equity. Investment freedom has a positive and significant effect on equity, but insignificant effect on the intercompany debt component. Property rights were found to have a significant positive effect on intercompany debt but insignificant effect on equity. The role of economic freedom is direct, positive and significant on intercompany debt, but indirect, significant and positive on equity, via real GDP.

In order to stimulate the equity component, which is preferred, efforts should be tailored at not only maintaining robust macroeconomic growth and stability, but strengthening institutional quality by ensuring political stability, and fostering investment and economic freedom. This entails avoiding political uncertainty, removal of investment restrictions, and promoting regulatory efficiency and open markets through credible institutional and policy reforms. In order to enhance and ensure stability of the FDI debt component, improvement in property rights, through enforcement of the rule of law, curbing of corruption and enforcement of contracts is critical.

The rest of the paper is structured as follows: Recent FDI trends in the MEFMI region is presented in section two (2), and this is followed in section three (3) by the review of theoretical and empirical literature, while the theoretical framework, and estimation methodology are outlined in section four (4). Section 5 presents and discusses the results and section six (6) concludes and highlights recommendations.

2. RECENT FDI TRENDS IN THE MEFMI REGION

The stock of foreign direct investment in MEFMI member countries rose to US$77.3 billion in 2013, from US$23.3 billion recorded in 2000 (see Table 1). The major recipient countries in recent years include Mozambique, Zambia, Tanzania and Uganda. As a percentage of GDP, the stock of FDI in the MEFMI region marginally increased to 37.0% as at end-December 2013 from 35.6% recorded in the year 2000 (see Table 2).

[4]For robustness check, the equations were also estimated using a Dynamic Panel Generalised Method of Moments (GMM).

Table 1: Inward Foreign Direct Investment Stock by Region and Country, 1980-2013 (US $ Billion)

YEAR	1980	1990	2000	2010	2012	2013	2013 Share %
ECONOMY							
World	697.91	2,081.39	7,511.30	20,370.69	23,304.43	25,464.16	100.000
Developing economies	296.28	514.32	1,771.48	6,597.07	7,945.33	8,483.01	33.314
Transition economies	0.00	1.65	58.02	732.68	823.08	928.02	3.644
Developed economies	401.63	1,565.42	5,681.80	13,040.94	14,536.02	16,053.14	63.042
Least developed countries	6.23	11.04	36.55	142.20	180.55	211.51	0.831
EU28 (European Union)	224.2	763.3	2352.8	7313.8	8019.9	8582.7	33.705
Africa excluding South Africa	24.64	51.47	110.29	417.20	493.09	546.92	2.148
Sub-Saharan Africa	29.83	36.77	109.55	411.55	457.09	474.32	1.863
Sub-Saharan Africa (exc RSA)	13.37	27.56	66.10	231.98	293.58	334.27	1.313
Selected Africa							
South Africa	16.46	9.21	43.45	179.56	163.51	140.05	0.550
Nigeria	2.46	8.54	23.79	60.33	76.37	81.98	0.322
Ghana	0.23	0.32	1.55	10.08	16.62	19.85	0.078
Dem. Rep. of the Congo	0.71	0.55	0.62	3.99	3.53	5.63	0.022
Mauritius	0.03	0.17	0.68	4.66	3.22	3.53	0.014
Gambia	0.13	0.16	0.22	0.67	0.73	0.75	0.003
Burundi	0.01	0.03	0.05	0.01	0.01	0.02	0.000
MEFMI Countries	**6.02**	**9.08**	**23.33**	**57.27**	**63.78**	**77.33**	**0.304**
Angola	0.06	1.02	7.98	11.86	1.94	2.35	0.009
Zambia	2.00	2.66	3.97	9.96	12.45	14.26	0.056
United Republic of Tanzania	0.34	0.39	2.78	8.76	10.84	12.72	0.050
Uganda	0.01	0.01	0.81	5.58	7.68	8.82	0.035
Namibia	1.94	2.05	1.28	5.33	3.60	4.28	0.017
Mozambique	0.02	0.03	1.25	4.77	13.99	20.97	0.082
Kenya	0.39	0.67	0.93	2.28	2.88	3.39	0.013
Zimbabwe	0.19	0.28	1.24	1.81	2.60	3.00	0.012
Malawi	0.14	0.23	0.36	1.15	1.17	1.29	0.005
Botswana	0.70	1.31	1.83	2.94	3.54	3.34	0.013
Swaziland	0.24	0.34	0.54	0.98	0.96	0.84	0.003
Lesotho	0.01	0.08	0.33	1.42	1.41	1.24	0.005
Rwanda	-	0.03	0.06	0.44	0.74	0.85	0.003

Source: *UNCTAD WIR Database*

Despite recording improvements in macroeconomic indicators, institutional quality ratings of several MEFMI member countries remain relatively weak. For example, the average economic freedom index in the region of 55.5 is lower than that of major FDI centres such as Mauritius, South Africa and Ghana (see Table 2). Similarly, investment freedom and property rights indices, at 33.85 and 47.69, respectively, rank lower than most FDI centres in Africa. Similarly, the average political stability and absence of violence/ terrorism index is negative at -0.05, with most countries recording a negative index.

Table 2: Selected Institutional Variables, and FDI/GDP Ratio by Country

YEAR	FDI/ GDP (%) UNCTAD 2012	FDI/ GDP (%) UNCTAD 2013	Econ Freedom Index 2012	Political Stability and Absence of Violence/ Terrorism Index 2012	Property Rights Index 2012	Investment Freedom Index 2012
Selected Africa						
Mauritius	28.1	29.5	77.0	0.97	65.0	90.0
South Africa	42.5	39.7	62.7	(0.00)	50.0	45.0
Nigeria	29.1	28.8	56.3	(2.05)	30.0	40.0
Ghana	40.8	43.9	60.7	0.10	50.0	65.0
Congo DR	18.8	27.0	41.1	(2.12)	10.0	20.0
Gambia	79.4	82.9	58.8	0.01	30.0	60.0
Burundi	0.4	0.7	48.1	(1.67)	20.0	55.0
MEFMI Countries						
Mozambique	95.8	134.9	57.1	0.44	30.0	55.0
Zambia	57.9	60.5	58.3	0.61	30.0	55.0
Lesotho	57.6	53.3	46.6	0.25	40.0	35.0
Tanzania	37.3	38.0	57.0	0.03	30.0	55.0
Uganda	35.3	37.7	61.9	(0.89)	30.0	45.0
Namibia	28.1	35.3	61.9	0.94	30.0	50.0
Zimbabwe	26.5	29.7	26.3	(0.79)	10.0	-
Malawi	20.6	25.1	56.4	(0.01)	45.0	50.0
Swaziland	24.8	23.5	57.2	(0.40)	40.0	55.0
Botswana	24.6	22.0	69.6	1.11	70.0	75.0
Rwanda	10.5	11.3	64.9	(0.21)	35.0	60.0
Kenya	7.1	7.5	57.5	(1.29)	30.0	50.0
Angola	1.7	1.9	47.7	(0.38)	20.0	35.0
MEFMI	**32.9**	**37.0**	**55.6**	**(0.05)**	**33.8**	**47.7**

Source: *UNCTAD, Heritage Foundation, World Bank Governance Indicators*

3. LITERATURE REVIEW

3.1 Theoretical Literature

Literature survey shows that there are several theoretical models that attempt to explain the motivations for FDI. These include; among others, neoclassical trade theory, the eclectic paradigm, the five stage theory of John Dunning, horizontal and vertical FDI models, diversified FDI and risk diversification models, and institutions. Faeth (2009) reviewed nine (9) theoretical models of FDI and shows that there is no single theory of FDI, but a variety of theoretical models that attempt to explain FDI. Faeth (2009) recommends that any analysis of determinants of FDI should not be based on a single theoretical model, but by a combination of factors from a variety of theoretical models such as ownership advantages, market size and characteristics, cost factors, transport cost, protection, risk factors and policy variables. From the above listed theoretical models, other than the institutions theory, the eclectic paradigm attributable to Dunning (1980, 1988), incorporates some institutional variables.

The Eclectic Paradigm, abbreviated as OLI stands for the following: ownership advantages, locational advantages and internalisation. **Ownership advantage** refers to intangible assets which are possessed by a multinational enterprise exclusively and may be transferred within the multinational enterprise or group at lower cost, leading to higher income or reduced cost. The advantages of a MNE include **Monopoly Advantages, Technology and Economies of large size.**

The letter 'L' stands for Location specific advantages which include **economic benefits** such as quantitative and qualitative factors of production, lower cost of transportation, resource availability, telecommunications, **political and institutional factors** such as specific government policies that have implications on FDI, large market size, **social advantages** such as distance from the home country, and cultural relations, attitude towards strangers, etc.

The third dimension "I" for **Internalisation:** provides a framework for assessing different ways in which an enterprise can exploit its powers from the sale of goods and services to various agreements that might be signed between the companies. For instance, if cross-border market internalisation benefits are higher, an enterprise is more likely to engage in foreign production rather than offering this right under license or franchise. From the eclectic paradigm, four types of FDI are derived these being **Resource seeking, Market seeking, Efficiency seeking and Strategic positioning.**

The institutional determinants FDI theory explores the significance of the institutional framework in driving FDI flows. According to this theory, political stability is a critical factor of a healthy institutional framework. The theory argues that FDI is driven more by institutional variables such as policies, laws, and their implementation and less by fundamentals. Governments, markets, education and socio-culture are the four key institutions considered important in driving FDI flows (Wilhelms, 1998).

3.2 Empirical Literature

3.2.1Empirical Literature on Overall FDI

There are several empirical studies such as Asiedu (2013), Asiedu (2006), Anyanwu (2012), Mohanad (2013), Akoto (2012),

Bende-Nabende (2002), Recep (2009) and Dabla-Norris (2010) that explain the determinants of foreign direct investment. Some studies on both developed and less developed countries stress the role of political, economic, social, and policy variables (Sun 2002). Sun (2002) emphasises the role of institutional, historical and geographical factors and shows that FDI follows some initial growth or at least the promise of growth. In terms of political stability, studies have shown that incidences of armed conflicts, political coups, assassinations, and riots negatively impact on foreign companies' investment decisions. Frequent changes of governments and the associated policy changes can significantly and negatively affect investment.

Abdul (2008) shows that better institutions in terms of government stability, investment profile, internal and external conflict, law and order, democratic accountability and bureaucratic quality are pre-requisites for promoting investment from MNEs. Institutional variables widely used include voice and accountability, political stability and lack of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Other studies include risk expropriation, government stability, democratic accountability, law and order and corruption.

The literature shows that a good interaction between institutional variables and other macroeconomic variables such as a well-developed financial system, favourable growth performance, high trade openness, infrastructure development, low business risk and attractive fiscal and monetary incentives are also vital in stimulating FDI inflows in host economies.

An empirical assessment by Anyanwu (2012), focusing on African countries for the period 1996-2008, suggests a positive relationship of FDI with market size, openness to trade, foreign aid flows, prevalence of the rule of law, natural resource endowment and exploitation. Asiedu (2013), using a dynamic panel model for 99 developing countries for the period 1984 to 2011, found that natural resources had an adverse effect on FDI, after controlling for quality of institutions, degree of openness, GDP growth and inflation.

3.2.2 Empirical Literature on FDI Components and Institutions

Empirical literature search shows that determinants of components of FDI and the role of institutional factors in driving equity and debt components of FDI has generally been underexplored. Eugen et al (1998), for example, examined whether the standard components of FDI were substitutes or complements of each other in the USA and OECD countries, and concluded that differences in alternative FDI theories could be partially resolved by more explicit recognition of differences in the determinants and consequences of the standard components of FDI.

A study by Loree et al (1995) examined the effects of policy and non-policy variables on the location of new USA direct equity investment abroad (as distinct from reinvested earnings of affiliates), using data for 1977 and 1982. Their findings show significant positive effects of incentives, while performance requirements, host country tax rates had negative effects. Other non-policy variables such as political stability, cultural distance, GDP per capita and infrastructure, were also found to be significant.

With specific focus on reinvested earnings, Oseghale et al (2010) examined the impact of good governance on reinvestment of retained earnings by US Multinationals in 22 selected developing and emerging economies using the indicators developed by Kaufmann et al (1999). Their study finds that good governance in host countries had a statistically significant impact on reinvestment of retained earnings by US multinationals.

Troy et al (2013), focusing on Trinidad and Tobago, examined the factors that influence reinvestment. Their findings show that economic growth and the level of energy exports were positively related with reinvestment of earnings, while major negative factors included political risk, exchange rate volatility and the size of government spending.

The literature survey suggests the need, from African countries' perspective, to disaggregate FDI into the two main components; i.e. equity and debt and examine the role of institutional factors in driving these flows. A proper understanding of the impact of institutional factors on each of these FDI components is critical in guiding policy to enhance and sustain FDI flows through the institutional channel.

4. RESEARCH METHODOLOGY

4.1 Theoretical Framework

The study employs Fedderke (2002) portfolio theoretical model to empirically assess the role of institutional factors in attracting FDI inflows in the region. Fedderke (2002) model is preferred in this study as it explicitly defines the relationship of institutional factors with FDI. Main drivers of FDI are broadly in two categories, these being the rate of return and risk factors. Foreign direct investment inflows respond positively to the rates of return and negatively to risk factors. Fedderke (2002) model defines the expected return on a portfolio of capital assets faced by an agent as:

$$E(R)=D^R - D^C + F^R - F^C \quad \text{.....4.1.1}$$

Where D^R and F^R are the expected return on domestic and foreign capital assets, respectively, and D^C and F^C are the cost of adjustment of domestic and foreign asset holdings, respectively. The cost of adjustment arise as a result of information and transaction cost associated with adjusting the composition of the capital asset portfolios. A distinction is made between returns to domestic assets from returns to foreign assets by having a non-zero probability of expropriation. Expropriation in this framework includes factors such as nationalisation of assets, domestic political instability that might lower the returns to domestic investment, capital controls, and direct or implicit taxes faced by foreign and domestic investors.

As domestic returns are discounted by an expropriation risk, an increase in the expropriation risk will induce the optimising investor to reduce domestic assets in their portfolios. This results in a reduction in FDI flows to the domestic economy. This relation yields a simple theoretical postulation which says that FDI is positively related to secure property rights, political stability, economic and investment freedom in the host country. Macroeconomic factors and other drivers of FDI identified in the literature are also included in the model.

Based on the above theoretical framework and literature survey, the empirical model for **Equity Component of FDI** has the following factors and expected signs:

$$FDIS_{it}^{E} = f(GDP_{it}^{+}, CPI_{it}^{-}, REER_{it}^{+/-}, RIR_{it}^{-}, OPEN_{it}^{+/-}, COMPI_{it}^{+}, EXY_{it}^{+}, PROPR_{it}^{+}, POLS_{it}^{+}, \ldots\ldots\ldots\ldots ECONFI_{it}^{+}, INVFREE_{it}^{+}) \ldots\ldots\ldots\ldots 4.1.2$$

Where *i=Countries (Kenya, Lesotho, Malawi, Mozambique, Tanzania, Uganda, and Zambia), t=time*, $FDIS^{E}$ is Foreign Direct Investment Equity Stock, GDP is the Gross domestic product, proxy for market size, CPI is the consumer price index, $REER$ is the real effective exchange rate, RIR is domestic real interest rate, $OPEN$ is the degree of openness, $COMPI$ is the commodity price index, EXY is external demand, $PROPR$ is the property rights index, $POLS$ is political stability and absence of violence/terrorism index, $ECONFI$ is Economic freedom index, and $INVFREE$ is investment freedom index.

The Other Capital (Intercompany Debt) Component of FDI equation is specified as follows:

$$FDIS_{it}^{OC} = f(GDP_{it}^{+}, CPI_{it}^{-}, REER_{it}^{+/-}, OPEN_{it}^{+/-}, COMPI_{it}^{+}, EXY_{it}^{+}, UK\_IR_{it}^{-}, PROPR_{it}^{+}, POLS_{it}^{+}, \ldots\ldots\ldots\ldots ECONFI_{it}^{+}, INVFREE_{it}^{+}) \ldots\ldots\ldots\ldots 4.1.3$$

Where; $FDIS_{it}^{OC}$ is Other Capital (intercompany debt) component Stock of FDI, UK_IR represents world interest rates, and the other variables are as defined above.

4.2 Data Description and Sources[5]

The description of the data and sources are presented in Annex 1, while the unit root test results for the main variables in the study are summarized and presented in Annex 2. The results show that all the listed variables are I (1), .i.e., stationary after first difference.

4.3 Econometric Methodology

The study employed standard Panel Johansen estimation technique for multivariate cointegration. The Vector Error Correction Model (VECM) framework is preferred as it allows for feedback effects to take place between the variables in the model. This is appropriate for this study as the control variables, particularly GDP and exchange rates tend to be endogenous with FDI. In addition, institutions tend to be endogenous to FDI. Daude et al (2007) notes that endogeneity arises between FDI and institutions because when investors are located in a foreign country, they might become a constituency that demands better institutions. Further, the VECM approach allows us to disentangle the short-run from the long-run effects. For robustness check, however, the Dynamic Panel Generalised Method of Moments (GMM) method is also employed. Following Anderson et al (2006), the Panel VECM is presented below:

[5]See annex 1 and 2

Let $y_{it} = (y_{it1}, y_{it2}, \ldots\ldots y_{itp})'$ be a pX1 vector of interest for cross – section i in period t. Suppose that y_{it} follows a non-stationary VAR (k) process:

$$y_{it} = \delta_i d_t + \sum_{j=1}^{k} \phi_{ij} y_{i,t-j} + \varepsilon_{it}, t = 1,2,\ldots,T; i = 1,2,\ldots\ldots,N \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 4.3.1$$

Where ϕ_{ij} is a *pXp* coefficient matrix, ε_{it} *is a pX1* vector of disturbances, and d_t is a vector of deterministic components; that is d_t *=1 or (1, t)',* δ_i is a *pX1* or *pX2* matrix of parameters. Thus $\delta_i d_t$ is a *pX1* vector with the j-th element equal to δ_{1ij} *or* $\delta_{1ij} + \delta_{2ij} t$ representing the deterministic component of the model. We assume that the number of cross-sections (N) is fixed and the number of time periods (T) is relatively larger.

Given Equation 4.3.1, we can also equivalently represent y_{it} as a VECM:

$$\Delta y_{it} = \delta_i d_t + \prod_i y_{i,t-1} + \sum_{j=1}^{k-1} \Gamma_{ij} \Delta y_{i,t-j} + \varepsilon_{it}, t = 1,2,\ldots,T; i = 1,2,\ldots\ldots,N \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 4.3.2$$

where $\Gamma_{ij} = -\sum_{s=j+1}^{k} \phi_{is}$ for j=1, 2,…, (k-1) and $\prod_i = -\left(I_m - \sum_{j=1}^{k} \phi_{ij}\right)$

To determine the number of cointegrating equations, the study employed both the trace and eigenvalue test statistics. The cointegrating equation captures the long run relationship among variables; this is simply a search for a long-term statistical equilibrium between variables that tend to grow over time. The deviation from this equilibrium (short-run dynamics) is modelled by a Panel Vector-Error Correction (VEC) model based on Johansen Multivariate Cointegration analysis (Johansen 1988, and Johansen & Juselius 1990). Estimates from Equation 4.3.2 convey information about the long-run relationships among variables, and in addition, help to examine how variables converge to their equilibrium after a shock. When the number of cointegrating equations is greater than one (1), that is, when we have more than one cointegrating relationship, issues of identification arise and are therefore addressed by means of imposing restrictions.

The theory-guided approach to impose just-identification restrictions is employed following Pesaran and Shin (1995b). While our theoretical framework suggests the existence of a long-run relationship between FDI and macroeconomic determinants and its institutional factors, a strong feedback effect is expected from FDI to output (GDP) and exchange rate. The over-identifying restrictions are tested using a χ^2 test statistic at 5.0% level of significance.

5. RESULTS AND ANALYSIS

5.1 Equity Component of FDI -VECM Results

Firstly, an ordinary VAR is run using the variables in the model and the optimal lag length obtained and residuals with no significant serial correlation at 5.0 % level of significance. Both the trace and maximum eigenvalue test-statistics for the number of cointegrating vectors for equations A, B, and C suggest one (1), two (2) and three (3) cointegrating equations, respectively (see Annex 3.1).

Table 5.1: Long Run and Short Run Parameter Estimates –Equity Component Equation

	A	B		C		
Long-Run Parameter Estimates						
Dependent Variable	LFDISE	LFDISE	LRGDP	LFDISE	LRGDP	LREER
LFDISE(-1)	1	1	-1.691** [-13.707]	1	-3.846** [-17.376]	2.001** [3.432]
LRGDP(-1)	-1.180** [-20.373]	-0.573** [-6.244]	1	-0.202** [-2.921]	1	
LREER(-1)	-0.062** [-2.763]	-0.083* [-1.837]		-0.028 [-0.940]		1
LOPEN(-1)	-0.310 [-1.646]	-0.516 [-3.899]				
POLS(-1)	-0.634** [-7.056]					
ECONFI(-1)			-0.152** [-5.465]			
PROPR(-1)		0.005 [0.818]				
INVFREE(-1)				-0.020** [-4.738]		
C	4.275	0.047	11.941	-4.239	18.755	-18.583
Short-Run Parameters Estimates						
ECT1 t-1	-0.592** [-5.643]	-0.192* [-2.304]	0.011** [0.922]	-0.045** [-2.193]	0.010 [0.659]	0.216** [3.076]
ECT2 t-1		-0.07 [-1.688]	-0.001 [-0.105]		-0.001 [-0.229]	
ECT3 t-1					-0.001 [-0.992]	-0.071** [-2.724]
Exogenous Factors						
LEXY		-0.016 [-0.8309]	-0.003 [-1.149]			
LR Test of Binding Restrictions	x^2 (2)=4.57(0.102)	x^2 (6)=8.162(0.226)		x^2 (4)=0.037(0.981)		

Notes: Figures without brackets and in squared brackets [ ] are coefficients and absolute t-statistics, respectively**.** The correct sign of long-run parameters is the opposite of what is reflected in the tables. When you take the dependent variable to the other side of the equation, all signs change.

* and ** denote significance of coefficients at 10% and 5%, respectively.
After running a VECM and imposing restrictions, the over-identifying restrictions are tested using a LR Chi-Square test for binding restrictions. The findings for the estimated equations show that we cannot reject the validity of the over identified restrictions at 5.0 % level of significance *(see Table 5.1)*.

With regards to the role of institutional quality variables, the findings in Table 5.1 suggest that the equity component of FDI is strongly and positively driven by political stability and investment freedom. An improvement in political stability and absence of violence/terrorism index by one (1) is associated with about 0.6 % increase in the equity component of FDI. It is evident from the findings that investors are particular about any form of political uncertainty as they make their investment decisions. MEFMI member countries should therefore aim at fostering peace and stability to stimulate and sustain equity FDI. These findings are consistent with other studies such as Loree et al (1995) and Troy et al (2013), who found a positive relationship of equity and reinvested earnings, respectively, with political stability.

Investment freedom had a significant and positive effect on the equity component of FDI. An improvement of the investment freedom index by one (1) is associated with about 0.02 % rise in the equity component of FDI. The findings suggest that a more liberal investment regime stimulates equity FDI. Removal of investment restrictions, therefore, is expected to spur equity investment. Economic freedom had an indirect, significant positive effect on equity via its impact on growth. An increase in the economic freedom index by one (1) is associated with about 0.2% rise in real GDP. It is therefore evident that fostering economic freedom has great potential to facilitate growth in domestic market size which is a key driver of equity FDI. Property rights, however, were found to have an insignificant effect on the equity component.

With regards to macroeconomic and other drivers, the findings show that domestic real GDP, exchange rate competitiveness and the degree of openness had strong positive effects on the equity component of FDI. In terms of impact on growth, a 1 % increase in the equity component of FDI contributes up to 3.8% growth in real GDP.

The Error Correction Term (ECT) in column A of table 5.1 gives the short-run dynamics for each equilibrium relationship. The short-run dynamic section shows that the coefficient of the error correction term (ECT) [0.592] is negative and statistically significant, suggesting moderate speed of adjustment to the long-run equilibrium. The speed of adjustment to long-run equilibrium for other equations is however, generally low.

Dynamic Panel GMM Results for FDI Equity Equation

For robustness check, the equity equation was also estimated using a Dynamic Panel

Generalised Method of Moments method (GMM). Dynamic panel modelling allows dynamic effects to be introduced into the model. This approach to panel data models involves adding a lagged dependent variable to the explanatory variables. The lagged dependent variable can remove autocorrelation.

The overall findings show that the results of the dynamic GMM model are broadly in line with the VECM results. Consistent with the VEC model, the dynamic panel GMM model shows that political stability, economic freedom and investment freedom had positive and significant effects on equity FDI. Property rights, however, had a negative effect in the dynamic panel model, but were insignificant in the VEC model (*See Annex 4.1*).

5.2 Intercompany Debt (Other Capital) Component of FDI

VECM Results for Intercompany Debt (Other Capital) Component of FDI

With regards to inter-company debt component, an ordinary VAR is first run using the variables in the model and the optimal lag length obtained with no significant serial correlation at 5.0 % level of significance. Both the trace and maximum eigenvalue test-statistics for the number of cointegrating vectors, suggest two (2) cointegrating equations *(see Annex 4*). After running a VECM and imposing restrictions, the over-identifying restrictions are tested using the LR Chi-Square test for binding restrictions. The findings show that we cannot reject the validity of the over identified restrictions at 5.0% level of significance *(see Table 5.2).*

In terms of institutional quality variables, the findings suggest that political stability, economic freedom and property rights, were major positive drivers of the intercompany debt component. An improvement in the political stability and absence of violence/terrorism index by one (1) is associated with about 1.0 to 1.9% increase in intercompany debt component of FDI. The findings suggest that foreign investors are particular about any form of political uncertainty before they can extend intercompany debt to affiliates.

Table 5.2: Long-Run and Short-Run Parameter Estimates –Intercompany Debt Component Equation

	A	B	C	D	
Long-Run Parameter Estimates					
Dependent Variable	LFDISOC	LFDISOC	LRGDP	LFDISOC	LFDISOC
LFDISOC(-1)	1	1	-0.614** [-5.625]	1	1
LRGDP(-1)	-1.809** [-5.222]	-1.791** [-8.395]	1	-2.623** [-7.909]	-2.619** [-7.172]
LREER(-1)		-0.141 [-1.044]	0.218* [1.731]	-0.034 [-0.235]	-0.187 [-1.138]
POLS(-1)	-1.905** [-4.218]	-0.998** [-3.772]		-1.466** [-3.657]	-1.662** [-3.922]
ECONFI(-1)	-0.209**		-0.125**		

	[-2.103]		[-3.109]		
PROPR(-1)				-0.082** [-2.482]	
INVFREE(-1)					0.053* [1.781]
C	20.860	9.713	1.258	19.622	14.453
Short-Run Parameters Estimates					
ECT1 t-1	-0.288** [-4.159]	-0.527** [-3.815]	-0.017** [-2.698]	-0.308** [-4.103]	-0.179** [-2.640]
ECT2 t-1		-0.294* [-1.727]	-0.024** [-3.079]		
LR Test of Binding Restrictions	x^2 (3)=0.65 (0.885)	x^2 (3)=0.948 (0.814)		x^2 (3)=3.709 (0.295)	x^2 (2)=2.041 (0.360)

Notes: Figures without brackets and in squared brackets [ ] are coefficients and absolute t-statistics, respectively. The correct sign of long run parameters is the opposite of what is reflected in the tables. When you make the dependent variable to the other side of equation, all signs change.

* and ** denote significance of coefficients at 10% and 5%, respectively.

Similarly, economic freedom had a significant positive effect on the intercompany debt component of FDI. An improvement in the economic freedom index by one (1) is associated with about 0.2% increase in intercompany debt component of FDI. Fostering economic freedom, therefore has a great potential to stimulate intercompany debt component of FDI inflows in the region.

Property rights had a positive effect on intercompany debt component of FDI. An increase in the property rights index by one (1) is associated with 0.08% rise in intercompany debt component of FDI. Fostering property rights through Government enforcement of clear laws that protect private property rights and curb corruption is critical in stimulating FDI inflows. The findings are consistent with the World Bank Doing Business 2014 and 2015 reports which stress the need for countries in the region to improve in the area of enforcing contracts, given the poor global rankings on these factors. An increase in the investment freedom index, however, had an insignificant effect on other capital component of FDI at 5.0 % level of significance.

With regard to macroeconomic and other drivers, real GDP had a strong positive effect, while the degree of openness and external demand had insignificant effects on intercompany debt component of FDI at 5.0% level of significance. In terms of impact on growth, a 1% increase in the inter-company debt component of FDI contributes about 0.6% growth in real GDP. The findings suggest that, despite being highly responsive to real GDP, the intercompany debt component of FDI has relatively lower effects on growth than the equity component.

As depicted in *Table 5.2*, the Error Correction Terms (ECTs) in columns A to D give the short-run dynamics for each equilibrium relationship. The short-run dynamic section shows that the coefficients of the error correction terms (ECTs) range between 0.2 and 0.5 and are negative and statistically significant. It indicates that the estimated relationship is potentially dynamic and stable, with low to moderate speed of adjustment to the long-run equilibrium.

Dynamic Panel GMM Results for FDI Intercompany Debt Equation

To assess the robustness of the results, the other capital equation was also estimated using a Dynamic Panel GMM framework. The overall findings show that there were similarities as well as some differences between the Dynamic Panel GMM and the VECM results. Like in the VEC model, the dynamic panel GMM model also shows that political stability had a positive and significant effect on intercompany debt. Investment freedom had a positive effect on intercompany debt in both the dynamic model as well as the VECM, though the effect was insignificant in the dynamic model. Property rights and economic freedom, however, had negative effects in both models, though economic freedom had an insignificant effect in the dynamic panel model *(See Annex 4.2)*. The major limitation of the dynamic panel GMM model is that it does not take into account the feedback effects of variables such as real GDP on FDI.

5.3 Overall Findings and Contrast

Overall findings based on the VECM show that institutional factors are important drivers of both equity and debt components of FDI in MEFMI countries. Political stability has a stronger positive impact on inter-company debt component than on equity. This could be attributed to the fact that in the presence of political uncertainty, the risk premium on lending tends to rise and making borrowing costs substantially higher. Investment freedom had a positive effect on equity but was found to be insignificant with regard to intercompany debt. The findings suggest that imposing investment restrictions tend to constrain new equity inflows and reinvestment of earnings, by existing investors. Property rights were found to have a significant positive effect on intercompany debt component but insignificant effect on equity. Improvements in property rights tend to improve the risk profile of a country, thereby attracting more FDI debt flows as the risk premium is reduced. Economic freedom was found to have a significant positive effect on both components, though direct on intercompany debt, and indirect on equity via real GDP.

6. CONCLUSION

This study examined the impact of institutional quality on equity and debt components of FDI, focusing on property rights, political stability and absence of violence/terrorism, economic and investment freedom for the period 1995 to 2012. The empirical study employed Fedderke (2002) portfolio theoretical model to assess the relationship between FDI components and institutional variables using a VEC econometric framework. For robustness check, the equations were also estimated using a Dynamic Panel Generalised Method of Moments (GMM) method.

The study focused on seven (7) selected MEFMI member countries. The findings provide policy guidance on how to improve the investment climate in order to stimulate equity and debt components of

FDI inflows in MEFMI member countries by strengthening institutional quality.

a. Summary of Findings

The overall findings show that institutional factors play a critical role in driving equity and debt components of FDI. There are, however, some variations in terms of specific factors and their degrees of elasticity. While political stability has a strong positive effect on both components of FDI, the impact on intercompany debt component is generally more than twice higher than on equity. Investment freedom has a strong and positive effect on equity but insignificant effect on the intercompany debt component of FDI. Property rights, however, were found to have a significant positive effect on intercompany debt component but insignificant effect on equity. The role of economic freedom is direct, positive and significant on intercompany debt, while its impact on equity is indirect, positive but significant via real GDP.

b. Policy Recommendations

To stimulate the equity component, which is highly desirable, given it is relatively lower exchange rate management risk and higher contribution to growth, efforts in MEFMI member countries should be focused at maintaining not only macroeconomic growth and stability, but also improving the investment climate by reducing uncertainty and transaction costs as a result of weak institutions. Priority should be laid at maintaining political stability and fostering investment and economic freedom. This entails avoiding political uncertainty, removal of a variety of investment restrictions and promoting regulatory efficiency and open markets through credible institutional and policy reforms.

In order to enhance and ensure stability of FDI debt inflows, improvements in property rights is also critical. To achieve this, there is need to enhance the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state, curbing of corruption and enforcement of contracts.

c. Contribution of the Study

The study contributes to the body of knowledge by examining the role of institutional factors in driving equity and debt components of FDI, while controlling for macroeconomic and other drivers. The overall findings show that institutional quality factors play a critical role in driving both the equity and debt components of FDI. Differences, however, exist on specific factors and their degrees of elasticity. The study makes clear policy implications on how to enhance the equity component of FDI (which is preferred) by maintaining not only robust macroeconomic growth and stability, but ensuring political stability, and promoting investment and economic freedom. This entails avoiding political uncertainty, removal of a variety of investment restrictions, and promoting regulatory efficiency and open markets, and the rule of law through credible institutional and policy reforms.

d. Limitations

The findings of the study are limited to the accuracy of long time series of FDI data disaggregated by component for the countries included in the study over the sample period. Most MEFMI member countries began to capture relatively more accurate and disaggregated FDI data by component after early 2000s. Disaggregated FPC data therefore, for prior years, are relatively less accurate than after the surveys were launched.

The panel GMM would have been the primary method to use, but due to limited number of cross sections compared with the time series dimension, the GMM was only employed for robustness check in this study. The option of averaging the time series data to make it shorter than the cross section dimension could not be employed as it would further reduce the data points, which would adversely affect the degrees of freedom.

e. Scope for Further Research

Data allowing, future research could focus on distinguishing the role of institutional quality in driving the equity capital and retained earnings components of FDI. Such an analysis is highly desirable as these two components are conceptually different and distinguishing the role of institutional factors is critical on how to stimulate these FDI components.

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7. ANNEX

Annex 1. Variable Description and Data sources

Variable	Description	Source
FDISE	Foreign Direct Investment-Equity Stock	Central Banks, UNCTAD FDI data base, IMF CDIS, World Bank WDI 2014 database, as well as accumulation of flows where there were gaps.
FDISOC	Foreign Direct Investment-Other Capital Stocks	Central Banks, UNCTAD FDI data base, IMF CDIS, World Bank WDI 2014 database, as well as accumulation of flows where there were gaps.
RGDP	Real Gross Domestic Product	World Bank WDI 2014 database
GDP	Gross Domestic Product	World Bank WDI 2014 database
CPI	Consumer Price Index	World Bank WDI 2014 database & Central Banks

REER	Real Effective Exchange rate	World Bank WDI 2014 database & Central Banks
RIR	Real Interest Rates	World Bank WDI 2014 database & Central Banks
OPEN	Trade Openness $\frac{(\text{Exports} + \text{Imports})}{\text{GDP}}$	World Bank WDI 2014 database
COMPI	Commodity Price Index	World Bank WDI 2014 database & Central Banks
EXY	External Demand (GDP of Major export markets)	World Bank WDI 2014 database & UNCOMTRADE
UK_LR	UK lending rates	World Bank WDI 2014 database
PROPR	Property Rights Index	Heritage Foundation and Wall street Journal, 2014 Index of Economic Freedom database.
POLS	Political Stability	World Bank Global Governance Indicators database 2014
ECONFI	Economic Freedom Index	Heritage Foundation and Wall street Journal, 2014 Index of Economic Freedom database.
INVFREE	Investment Freedom Index	Heritage Foundation /Wall street Journal, 2014 Index of Economic Freedom database
DUMGC	Dummy for the Global Financial and Economic crisis of 2008/9	Constructed

(i) Dependent Variable

For purposes of the study, the stock of FDI by type is used to overcome the problem of applying logs on negative inflows for some series such as FDI. The changes in stocks are, however, largely driven by the flows, and remain positive.

(ii) Explanatory Variables

Macroeconomic Factors

Market Size: Based on the literature survey, GDP measures the market size of the host country and it has consistently been statistically significant in most empirical studies. From the theoretical perspective, a larger market allows enterprises to benefit from economies of scale associated with, among other things, low distribution costs and bulk-buying of inputs.

Inflation: High inflation, which indicates macroeconomic instability, is expected to discourage investment. With high inflation, planning for the future is a challenge as prices of products become unpredictable.

Exchange Rate: Exchange rate instability discourages investment while a real appreciation of the exchange rate encourages export oriented foreign investors and may discourage investors with a predominantly local market. This is largely as a result of increases in cost of imports of raw materials or products sold on the local market. At the initial stage, however, depreciation reduces the price

of domestic assets and makes it cheaper for foreign investors to purchase local assets.

Interest Rates: A rise in domestic lending rates increases the cost of credit and is expected to negatively impact FDI Equity flows but may encourage FDI Debt flows.

Trade Openness: High Trade openness (approximated by share of exports plus imports over GDP) is expected to stimulate FDI flows particularly for export oriented FDI.

Global Factors: Global factors such as *Commodity Prices* and *External Demand* are expected to stimulate FDI flows while a rise in *Global Interest Rates* is expected to constrain FDI inflows, particularly the FDI debt component.

Institutional Variables: The study utilises four institutional variables; Political Stability and Absence of Violence/ Terrorism, Economic Freedom, Property Rights and Investment Freedom. The choice of these variables is guided by the expected strong link to FDI flows and data availability. These variables are described below as follows:

Political Stability and Absence of Violence/Terrorism: this estimate captures perceptions that the government will be destabilised or overthrown by unconstitutional or violent means including politically motivated violence and terrorism. The index Ranges from -2.5 to +2.5. This variable was obtained from the World Bank's WGI project (Governance Indicators). The variable was constructed for each country with reference to several surveys of both experts and regular citizens within each nation. An increase in the index suggests an improvement in political stability. Political stability is expected to be positively related with FDI inflows.

***Economic Freedom*:** measures economic freedom based on 10 quantitative and qualitative factors: rule of law (property rights, freedom from corruption), limited Government (fiscal freedom, government spending) regulatory efficiency (business freedom, labor freedom, monetary freedom), and open markets (trade freedom, investment freedom, and financial freedom) *[Heritage Foundation/ Wall Street Journal 2014]*. Each of the ten components of economic freedoms is graded on a scale of 0 to 100. A country's overall score is derived by averaging these ten economic freedoms, with equal weight being given to each. Similarly, a rise in the economic freedom index indicates an improvement in economic freedom and is expected to be positively related with both the equity and Debt components of FDI.

Property Rights: The property rights index is an assessment of the ability of individuals to accumulate private property, secured by clear laws that are fully enforced by the state. It measures the degree to which a country's laws protect private property rights and the degree to which its government enforces those laws. It also assesses the likelihood that private property will be expropriated and analyzes the independence of the judiciary, the existence of corruption within the judiciary, and the ability of individuals and businesses to enforce contracts *(Heritage Foundation/Wall Street Journal 2014*. An improvement in property rights is expected to stimulate both components of FDI.

Investment Freedom; The investment freedom *Index* evaluates a variety of

restrictions that are typically imposed on investment. The points are deducted from the ideal score of 100 for each of the restrictions found in a country's investment regime. The governments that impose so many restrictions that they total more than 100 points in deductions have had their scores set at zero *(Heritage Foundation/Wall street Journal 2014)*. An increase in the index towards 100 suggests an improvement in investment freedom and consequently is expected to result in increased inflows of FDI, especially the equity component.

Annex 2: Unit Root Test Results

	Levels				**First Difference**				**Conclusion**
Variable	Levin, Lin & Chu t* P-Value	Im, Pesaran and Shin W-stat	ADF - Fisher Chi-square	PP - Fisher Chi-square	Levin, Lin & Chu t* P-Value	Im, Pesaran and Shin W-stat	ADF - Fisher Chi-square	PP - Fisher Chi-square	
LFDIS	0.9550	1.0000	1.0000	0.8600	0.0032	0.0003	0.0010	0.0000	I(1)
LFDISE	0.7348	0.9849	0.9845	0.1683	0.0003		0.0025	0.0000	I(1)
LFDISOC	0.9875	0.9965	0.9655	0.9744	0.0000	0.0003	0.0007	0.0000	I(1)
LRGDP	1.0000	1.0000	1.0000	1.0000	0.0000	0.0000	0.0001	0.0000	I(1)
LGDP	0.9906	1.0000	1.0000	0.9977	0.0000		0.0014	0.0000	I(1)
LGDPPC	0.9830	0.9997	0.9999	0.9750	0.0000		0.0001	0.0000	I(1)
LCPI	0.9993	1.0000	0.9985	0.2123	0.0351		0.0247	0.0000	I(1)
LREER	0.0923	0.0976	0.0297	0.0002	0.0000	0.0000	0.0000	0.0000	I(1)
RIR	0.0020		0.0911	0.0145	0.0000		0.0000	0.0000	I(1)
LOPEN	0.0547	0.0711	0.0760	0.0000	0.0001	0.0000	0.0000	0.0000	I(1)
LTELECOM	0.7808	0.5279	0.5725	0.5067	0.0400	0.0248	0.0342	0.0101	I(1)
LCOMPI	0.9945	0.9998	1.0000	1.0000	0.0000		0.0043	0.0000	I(1)
LEXY	0.8346	0.9940	0.9984	0.9999	0.0003		0.0007	0.0002	I(1)
UK_LR	0.0001	0.1883	0.3092	0.7027	0.0000	0.0031	0.0087	0.0000	I(1)
USA_LR	0.0031		0.1384	0.0552	0.0000		0.0000	0.0000	I(1)
PROPR	0.5396	0.8650	0.8750	0.8490	0.0081	0.0009	0.0016	0.0000	I(1)
POLS	0.0234	0.2724	0.3274	0.1697	0.0000	0.0012	0.0008	0.0000	I(1)
ECONFI	0.5257	0.1757	0.2698	0.0259	0.0000		0.0000	0.0000	I(1)
INVFREE	0.1724	0.4602	0.6605	0.3826	0.0005		0.0034	0.0000	I(1)

Notes: * denotes the rejection of the null of non-stationarity at 5% level of significance.

Annex 3.1: Number of Cointegrating Vectors for Equity Equation

Number of Cointegrating Equations Test Results: Equity Equation A

Series: LFDISE LRGDP LREER LOPEN POLS; Lags interval: 1 to 3					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	1	1	1	0	0
Max-Eig	1	1	1	1	1

*Critical values based on MacKinnon-Haug-Michelis (1999)
The Trace and Maximum Eigen Value tests suggest 1 cointegrating vector

Number of Cointegrating Equations Test Results: Equity Equation B

Series: LFDISE LRGDP LREER ECONFI PROPR LOPEN, Exogenous LEXY Lags interval: 1 to 3					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	1	2	1	1	1
Max-Eig	1	2	2	2	2

*Critical values based on MacKinnon-Haug-Michelis (1999)
The trace and maximum Eigen value tests suggest 2 cointegrating vectors

Number of Cointegrating Equations Test Results: Equity Equation C

Series: LFDISE LRGDP LREER INVFREE; Lags interval: 1 to 2					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	3	2	1	1	1
Max-Eig	2	1	1	1	1

*Critical values based on MacKinnon-Haug-Michelis (1999)
The trace and maximum eigen value tests suggest between 1 and 3 cointegrating vectors

Annex 3.2: Number of Cointegrating Vectors for Intercompany Debt Equation

Number of Cointegrating Equations Test Results: Intercompany Debt Equation A

Series: LFDISOC LRGDP LREER POLS ECONFI ; Lags interval: 1 to 3					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	0	1	0	0	0
Max-Eig	1	1	0	1	1

*Critical values based on MacKinnon-Haug-Michelis (1999)
The trace and maximum eigen value tests suggest between one (1) cointegrating vector.

Number of Cointegrating Equations Test Results: Intercompany Debt Equation B

Series: LFDISOC LRGDP LREER ECONFI POLS; Lags interval: 1 to 4					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	1	1	1	1	1
Max-Eig	1	1	1	2	2

*Critical values based on MacKinnon-Haug-Michelis (1999)
The trace and maximum eigen value tests suggest between one (1) to two (2) cointegrating vectors

Number of Cointegrating Equations Test Results: Intercompany Debt Equation C

Series: LFDISOC LRGDP LREER PROPR POLS; Lags interval: 1 to 3					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept
	No Trend	No Trend	No Trend	Trend	Trend
Trace	0	1	0	1	1
Max-Eig	0	1	1	1	1

*Critical values based on MacKinnon-Haug-Michelis (1999)
The trace and maximum eigen value tests suggest one (1) cointegrating vector

Number of Cointegrating Equations Test Results: Intercompany Debt Equation D

Series: LFDISOC LRGDP LREER INVFREE POLS; Lags interval: 1 to 1					
Selected (0.05 level*) Number of Cointegrating Relations by Model					
Data Trend:	None	None	Linear	Linear	Quadratic
Test Type	No Intercept	Intercept	Intercept	Intercept	Intercept

	No Trend	No Trend	No Trend	Trend	Trend
Trace	1	1	0	0	0
Max-Eig	1	1	0	0	0

*Critical values based on MacKinnon-Haug-Michelis (1999)
The Trace and Maximum Eigen Value tests suggest one (1) cointegrating vector

Annex 4.1 Dynamic Panel Generalized Method of Moments Results for FDI Equity

Dependent Variable: LFDISE

Method: Dynamic Panel GMM EGLS (Cross Section SUR)

Total No. of Panel Observations	100	100	100	
Explanatory Variables	Eqn1	Eqn2	Eqn1	
LFDISE(-1)	0.545***	0.585***	0.397***	
	[5.710]	[9.382]	[4.311]	
C			-8.064***	
			[-3.106]	
LRGDP	0.387***	0.393***	0.603***	
	[4.883]	[6.191]	[4.095]	
LREER		0.082***		
		[3.306]		
ECONFI			0.136***	
			[2.440]	
POLS	0.310***		1.338***	
	[4.279]		[4.948]	
INVFREE	0.014***			
	[2.769]			
PROPR	-0.014***	-0.014**		
	[-2.865]	[-3.906]		

Instruments	Instruments	Instruments	Instruments	
	C) LRGDP(-1) LREER LTELECOM LCOMPI RIR USA_LR ECONFI	C LRGDP(-1) LREER LTELECOM RIR USA_LR LCOMPI INVFREE	C LRGDP(-1) LREER LTELECOM RIR USA_LR LCOMPI	
R-squared	0.973	0.986	0.961	
Adj. R-squared	0.972	0.985	0.959	
J-statistic	0.302	1.481	2.760	
Prob(J-statistic)	0.960	0.686	0.252	

Notes: Figures in [ ] are absolute t-statistics. *, **, and *** denote significance of coefficients at 10%, 5% and 1%, respectively.

Annex 4.2: Dynamic Panel Generalized Method of Moments Results for FDI Intercompany Debt

Dependent Variable: LFDISOC

Method: Dynamic Panel GMM EGLS (Cross Section SUR)

Total No. of Panel Observations	98	99	98	
Explanatory Variables	Eqn1	Eqn2	Eqn3	
LFDISOC(-1)	0.788***	0.972***	0.849***	
	[6.288]	[27.271]	[6.589]	
LRGDP	0.408**	0.083***	0.348**	
	[2.108]	[2.285]	[2.006]	
LCPI		-0.067***		
		[-3.185]		
LOPEN	-0.453***		-0.445***	
	[-2.463]		[-2.343]	
ECONFI	-0.004			
	[-0.602]			
POLS	0.469***		0.401***	
	[2.755]		[2.395]	

INVFREE			0.001	
			[0.421]	
PROPR		-0.005***		
		[-2.649]		
Instruments	Instruments	Instruments	Instruments	
	C LREER(-1) LCPI(-1) LOPEN(-1) LCOMPI LTELECOM USA_LR RIR INVFREE PROPR	C LCPI(-1) LREER(-1) LOPEN(-1) LTELECOM LCOMPI RIR POLS INVFREE	C LCPI(-1) LREER(-1) LOPEN(-1) LTELECOM LCOMPI RIR USA_LR PROPR ECONFI	
R-squared	0.919	0.965	0.966	
Adj. R-squared	0.916	0.963	0.964	
J-statistic	3.393	4.972	2.648	
Prob(J-statistic)	0.335	0.547	0.618	

Notes: Figures in [ ] are absolute t-statistics. *, **, and *** denote significance of coefficients at 10%, 5% and 1%, respectively.

PREPARING FOR THE NEXT BOOM: THE CONTINUED CASE FOR SOVEREIGN WEALTH FUNDS IN AFRICA

By Malan Rietveld[1]
Director, Investec Investment Institute

The past decade has seen an historic rise in the number of sovereign wealth funds and the size of assets under their collective management. Buoyed by cyclical macroeconomic factors – notably rising commodity prices – a growing number of countries were able to channel surpluses into funds and institutions that targeted higher returns, while avoiding wasteful misallocations in rapidly growing revenue windfalls. Sovereign wealth funds also enjoyed the benefits of strong financial market returns on either side of global financial crisis.

In Africa, new sovereign wealth funds were created by established oil producers, notably Nigeria and Angola; while a smaller fund also took root in Ghana. The continent, already home to an impressively managed sovereign wealth fund in the form of Botswana's Pula Fund, also witnessed the prospect of meaningful reforms to existing funds in Gabon, Equatorial Guinea, Algeria and conflict-ridden Libya (home to the largest African sovereign wealth fund, the $65bn Libyan Investment Authority). Finally, new resource discoveries in East Africa resulted in greater interest – and in some cases, draft legislation – towards establishing sovereign wealth funds in Tanzania, Uganda, Kenya and Mozambique. Extrapolating from these trends, many observers have argued that sovereign wealth fund assets will continue to rise unabatedly globally (see McKinsey, 2009), and that Africa would become home to the largest number of sovereign wealth funds within a decade (Blas, 2013 and Monk, 2013).

However, the dramatic collapse in oil prices in the second half of 2014, along with the continued decline in commodity prices more generally, have called these projections into question. The timing and magnitude of the anticipated African resource boom has become more uncertain, as resource companies pull back from the large upfront investments in exploration and infrastructure. Consequently, there is a definite risk that the momentum behind the fiscal reform required to establish sovereign wealth funds – and, more importantly, secure a rule or transfer mechanism that allows their assets to grow – may stall, particularly in Africa.

All is not lost

However, it would be premature to assume that all is lost for African sovereign wealth funds. Indeed, such an assessment demonstrates exactly the kind of "pro-cyclical" thinking that the establishment of such funds is intended to address in the first place. Seen in this light, the current slump in energy prices may even be a blessing in disguise, reminding policymakers of the importance of countercyclical policies and institutions – of which sovereign wealth funds are a prime example – in the management of resource revenues.

Over the past 18 months, the Investment Institute at Investec Asset Management

[1]This paper was presented by Mr Malan Rietveld at the Governors' Forum which was held in Basel, Switzerland on 27 June 2015. Mr Rietveld is the Director of the Investec Investment Institute. His area of responsibility focuses on investment policies in the extractive industries, including resource-related infrastructure, foreign direct investment and the management of resource revenues.

has partnered with two leading academic research centres at Harvard Kennedy School of Government to study the structures, policies and operations of sovereign wealth funds. The Investec Investment Institute's work with the Center for International Development and the Belfer Center for Science and International Affairs led to the publication of three reports in April 2015, including one with in-depth case studies of 15 leading global sovereign wealth funds (see the References for details).

The message from these case studies for policymakers and legislators is clear: the momentum behind Africa's emerging sovereign wealth funds should be maintained – if not accelerated – in the face of the recent drop in oil and other commodity prices. In fact, the current slump in commodities could have a silver lining: if it delays the African resource bonanza (temporarily, rather than permanently), it creates more time to get the house in order in anticipation of future revenue booms. With all of the established sovereign wealth funds that we studied, the process towards establishing a sovereign wealth fund in law, setting appropriate spending and savings rules, and developing and implementing the requisite investment policies typically took several years. Moreover, all of these funds followed an evolutionary path, in which their mandates, investment practices and operational models changed along with the needs of the economy, the development of internal investment capacity and the size of assets under management.

Never waste a crisis

If policymakers continue to sow the seeds of fiscal prudence today, the benefits will be reaped when it matters: that is, when the next boom arrives. This will, in turn, better prepare countries for the inevitable slumps that follow. After all, one of the most important functions of sovereign wealth funds is to help manage periods of unanticipated shortfalls in resource revenues. The drop in oil prices in late-2014 is a timely reminder for countries yet to start serious resource production of just how severe and unexpected such shortfalls can be – and why sovereign wealth funds and counter-cyclical fiscal rules are, therefore, needed.

For the established resource producers, a different logic applies. Rahm Emanuel, President Obama's first Chief of Staff, famously said that in pushing through politically difficult reforms, one should "never let a crisis go to waste". This may well prove apposite with respect to fiscal reforms in Africa's most resource-dependent countries. The longer oil prices remain subdued (for example, if Brent crude oil remains priced below $80 per barrel), the fiscal position of countries that rely on oil revenues for more than three-quarters of their revenue will feel considerable pain and may even face fiscal or currency crises. Hopefully the anticipation of such crises – rather than their painful aftermath – sustains the impetus for reforms, including the establishment and growth of sovereign wealth funds. Again, our study of existing sovereign funds provides plenty of examples – Chile, Korea and even Norway – where moments of crisis helped make the case for establishing a sovereign wealth fund.

The critical importance of fiscal rules

One critically important finding from the research with Harvard is that sovereign wealth funds need to be accompanied by clear and consistent rules governing the flow of revenues, income and assets to and from the fund. In the context of resource-based forms of sovereign wealth, which applies to the majority of African countries in question, this means

placing the sovereign wealth fund within a rule-based fiscal framework.

Fiscal rules are an essential – perhaps *the* essential – part of the overall governance framework of sovereign wealth funds. Fiscal rules, whether publically disclosed or not, need to be adhered to in good and bad times – in academic terms, they need to be "time consistent". As with monetary policy, rules help counteract the dynamic inconsistencies and procyclical policies. Well-designed fiscal rules effectively decouple spending from volatile and uncertain resource revenues, helping countries maintain steady spending growth, regardless of positive and negative shocks to resource revenues. Our research developed a countercyclical rule for resource-rich developing countries, but also showed that very few countries, even those with famous and established funds, currently have robust counter-cyclical fiscal rules in place. Existing policies may have worked well in the context of high (and generally rising) revenues and surpluses – but the current decline in revenues will test this.

Modeling the fiscal rule

The fiscal rules developed during our research can be modeled to examine the implications of various policies in a number of different contexts and country cases, as illustrated in the examples discussed below. It is useful to briefly provide an intuitive overview of the rule-based fiscal framework (details of which are provided in our joint Harvard-Investec Institute report, *Sovereign investor models: Institutions and policies for managing sovereign wealth).* The rule-based framework should be viewed as tool that can help resource-rich countries achieve a desired balance between various economic objectives. The rule is not prescriptive, but can rather be used to better understand and anticipate the implications of different policy choices – specifically, that of various stabilisation, spending and savings policies.

The basic set-up of the rule assumes that resource revenues are split between current spending and transfers to and from a short-term Stabilisation Fund and a long-term Investment Income Fund. Transfers of assets between the two funds and the budget are governed by dynamic spending and savings rules: spending is stabilised by virtue of the fact that government spends a fixed percentage of the previous year's spending (for example, 70% or 80%), plus an amount transferred from both the Stabilisation and Savings Fund. This basic spending rule is captured by the following equation:

$$T_t = \alpha TS_{t-1} + \beta S_t + \delta E_t$$

Where:

T	=	total spending, based on the previous year's spending and transfers from both funds;
TS	=	the transfer from the Stabilisation Fund;
S	=	the size of the Stabilisation Fund;
E	=	the size of the Investment Income Fund; and
α	=	a parameter determining the share of spending based on the previous year's spending[2]
β	=	a parameter determining a fixed annual transfer from the Stabilisation Fund.
δ	=	an annual transfer from the Investment Income Fund, based on its expected average long-run real investment return.

[2]The parameters are determined by policymakers' preferences for stable spending, subject to constraints around what is sustainable. The Technical Appendix in Sovereign investor models: Institutions and policies for managing sovereign wealth discusses how the technical question of the calibration of α and β can be approached analytically.

The key discretionary variable in the model is the share of annual resource revenues (for example, 10%, 20% or 50%) that is transferred to the Investment Income Fund – that is, the "savings rate". Given that resource revenues are expected to decline, the government needs to build-up the Investment Income Fund in order to supplement – and potentially ultimately replace – the depleting resource revenue as a source of income to the government. If spending (that is, annual transfers from) the Investment Income is capped at its long-term real return, this fund is a source of *permanent* – rather than transitory – income to the government. Clearly, transferring a greater share of revenue to the Investment Income Fund implies less spending today in favour of higher future (and permanent) spending.

The Stabilisation Fund is used to stabilise government spending according to the spending rule anchored on the previous year's spending and the size of the Stabilisation Fund. These parameters can be derived in a number of ways, but for simplicity, assume that the government anchors spending on 75% of the previous year's spending ($\alpha = 0.75$) and a transfer of 10% of the size of Stabilisation Fund ($\beta = 0.1$). As noted above, spending is further supplemented by a 5% transfer from Investment Income Fund ($\delta = 0.05$).

Using a number of input assumptions around the trend and volatility of key variables for specific countries, the model can be used to quantify the implication of different spending, saving and investment policies. By explicitly modeling the volatility of revenues and financial-market returns, our model enables us to "stress test" the robustness of policies to various external shocks. The flexibility of the model – which is important given the range of economic contexts in which SWFs operate – lies in the ability to use different parameters, which reflect different policy objectives and the desired balance between spending, stabilisation and savings for future needs.[3]

Ghana: an illustrative application

In order to illustrate how this framework may be applied to provide some practical guidance on key issues around the management of anticipated resource revenues, we now consider a country case study of Ghana. As a new oil producer, like many other African countries, Ghana is expected to experience a significant increase in additional fiscal revenues resulting from rapidly rising oil production. The best current estimates suggest, however, that this increase will be a temporary windfall – and that oil revenues will start declining after roughly a decade of steady increases. Recent forecasts used by the IMF show a steady increase in new oil revenues starting in 2015 and peaking at around $4bn per year in 2024, before gradually declining and eventually depleting by 2040.

As a new oil producer, Ghana has the advantage of not being dependent on oil revenues – it has existing non-oil sources of tax and export earnings: the country could therefore, potentially, afford

[3]Given that the key inputs into the model are subject to sharp and unpredictable fluctuations, our calibration of the model assumes that certain variables (the return on the two funds and oil revenues) fluctuate randomly within a plausible range. The impact of these fluctuations is then "stress tested" by running 100 randomised simulations of financial market returns and oil revenues, and ensuring that the results are robust to any plausible combination of outcomes. Using this approach, we can determine how large the Stabilisation Fund needs to be in order to manage the modeled volatility of oil revenues; and, depending on the size of transfers to the Investment Income Fund, what the long-term profile and level of spending is.

to save a significant share of the new revenue windfall it expects to receive over the coming decade. However, Ghana also faces huge pressure to address infrastructure shortages and other development priorities – which could in part be financed through oil revenues. Ghana's policy challenge can therefore be summarised as follows:

The Ghanaian authorities want to stabilise the volatility of its incoming oil revenues, which can follow a highly unpredictable path given the uncertainties about future oil prices and production levels;

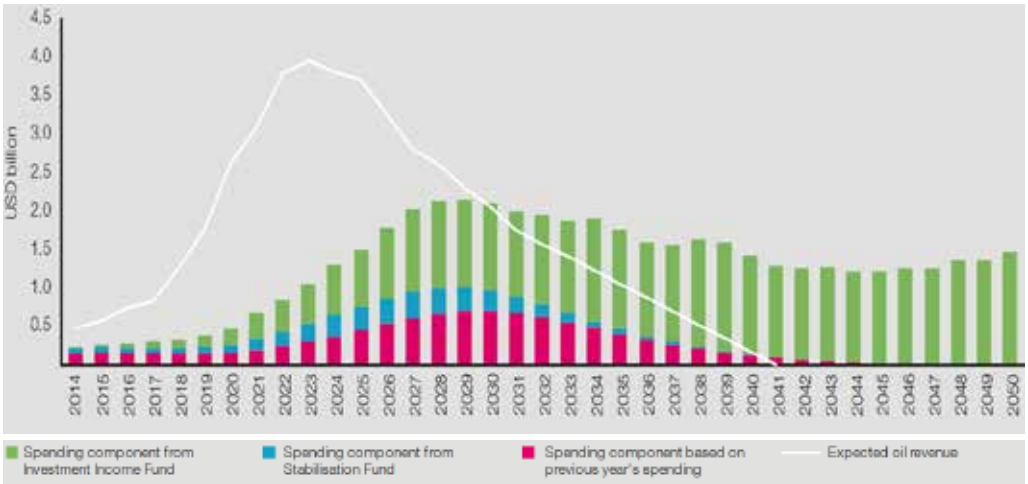
Given the massive developmental, infrastructure and public investment needs, policymakers wish to spend at least a portion of the incoming resource revenue windfall on domestic investment priorities;

Given that it may be difficult and distortionary to absorb the entire revenue windfall over the coming decade, the authorities wish to hold a portion of oil revenues in a portfolio of foreign financial assets - facilitating a more gradual increase in domestic spending and investment, and the creation of a financial endowment whose investment income ensures that higher spending can be maintained once oil revenues start to decline and eventually deplete;

This set of policy objectives – and trade-offs – underlines the challenges policymakers face in finding an appropriate balance between competing uses of resource revenue windfalls. This challenge is, of course, representative of that faced by many African governments with emerging resource sectors, making Ghana an interesting case study. The key discretionary policy question – beyond the more technical question of the parameters of the stabilisation rule and the size of the Stabilisation Fund – is how much revenue to transfer to the Investment Income Fund.

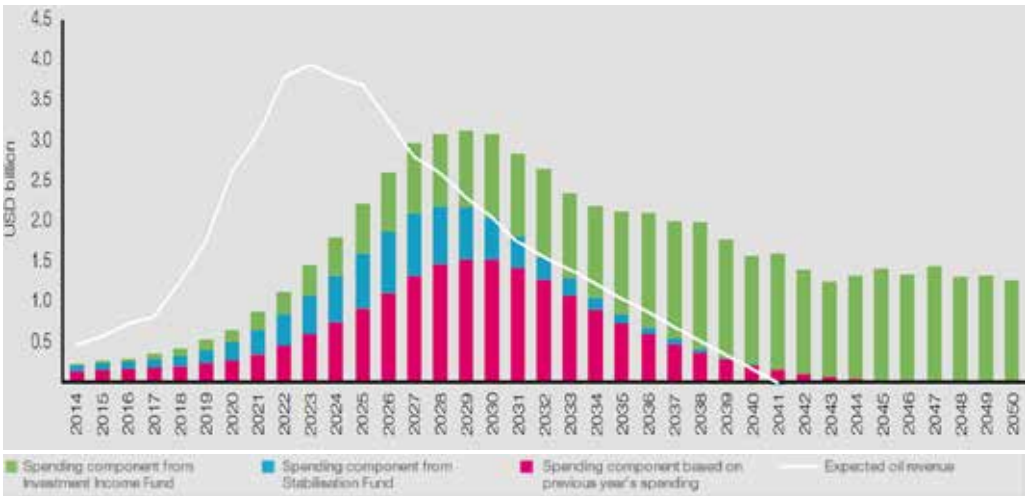
Figure 1 shows the output from the model under a scenario in which Ghanaian policymakers scale up oil-financed spending very gradually, creating a larger Investment Income Fund in order to sustain a higher future level of spending once oil revenues start declining and eventually disappear. The graph shows the level of spending (the average level from 100 randomised simulations) assuming that 75% of revenues are transferred to the Investment Income Fund, the contribution to the spending from the three components, and the assumed trajectory of oil revenues. Note that even with this highly conservative approach, total spending from oil revenues would be expected to rise to between $2-2.5 billion per annum (in real terms) after little more than decade – which is roughly double what Ghana spent on infrastructure investments in recent years. Even after oil is depleted, Ghana would have permanent income from the Investment Income Fund equal to around $1.5 billion each year.

Figure 1: Modelled spending path for Ghana, with 75% saving rate for oil revenues



Of course, Ghana may wish to transfer a smaller portion of its incoming oil revenues to the Investment Income Fund, allowing a more rapid scale up in spending in the short- to medium term. However, this would clearly imply a lower level of future (and sustainable) spending in favour of higher spending in the short term. Given the pressing domestic investment needs in Ghana, policymakers may conceivably choose to make that trade-off – as, indeed, they may wish to do in other African countries.

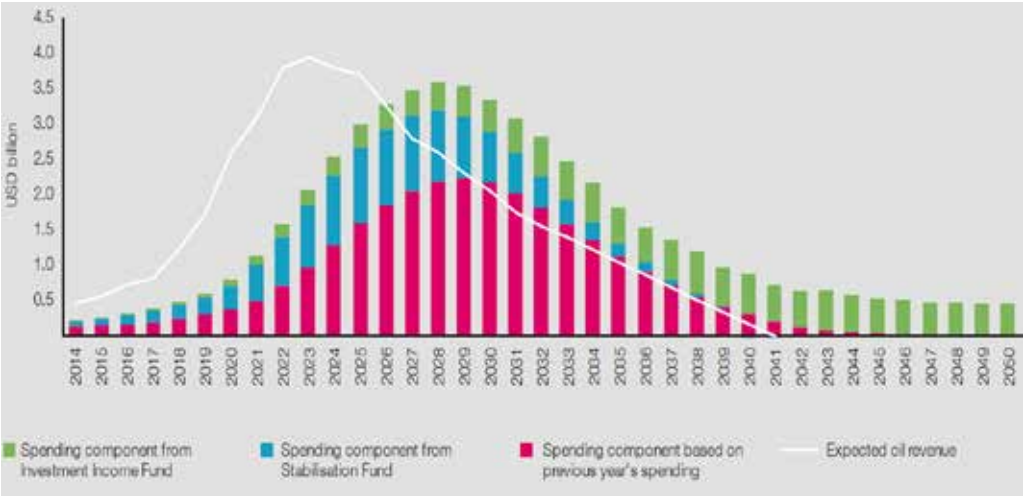
Figure 2: Modelled spending path for Ghana, with 50% saving rate for oil revenues



As shown in Figures 2 and 3, the model allows us to quantify the magnitude of this trade-off, by assuming a reduced transfer of 50% and 25% of oil revenue to the Investment Income Fund, respectively. As can be seen in the two graphs, smaller

transfers – which equate to lower savings of current oil revenues – can have a demonstrable effect on the level of public spending financed directly or indirectly (via the sovereign wealth fund) by oil revenues. With the low savings rate of 25%, permanent transfers from the sovereign wealth funds are minimal once oil is depleted (stabilising at around $500m in real terms). However, the lower savings rate does allow for a much more rapid increase in spending from oil revenues, which is modeled to peak at around $3.5 after around 13 years of the programme.

Figure 3: Modelled spending path for Ghana, with 25% saving rate for oil revenues



Sovereign development funds

The diversification of the real economy remains a critical challenge for all resource-dependent economies – Africa is no exception. In addition to stabilization and savings funds, a number of resource-dependent countries have created a third type of sovereign investment vehicle, namely sovereign development funds. While there are a number of different operational and investment models within this group, these funds share a focus on investing in the domestic economy, with at least a partial objective of developing local infrastructure and industries that promote diversification and job creation. They have also generally been created when more established or conventional sovereign funds, such as saving and stabilization funds, reach a critical level relative to identified policy needs.

A number of broad trends around sovereign development funds can be highlighted. First, the size of these funds is often constrained by the need to first achieve stabilization and savings objectives, and by the absorptive capacity in the domestic economy. Consequently, a number of the sovereign development funds in the Middle East – Mubadala (Abu Dhabi), Mumtalakat (Bahrain) and Saudi Arabia's own Public Investment Fund – are relatively small, compared to stabilization and savings funds. A second trend amongst sovereign development funds, notably Temasek (Singapore), Khazanah (Malaysia) and Samruk-Kazyna (Khazakhstan), is the tendency to augment the fund's own financial resources through the issuance of debt, public-private partnerships and co-investments with other sovereign funds, foreign investors and private corporations.

The advantages to channeling public investments in targeted sectors through a sovereign development fund, rather than through the budget, include the ability to capture sector-specific "know-how" in a dedicated fund, the capacity to co-invest and attract private capital, and an institutionalized long-term investment orientation and horizon. The allocation of a portion of assets to a sovereign development fund would be compatible with the proposals above. For example, the Sovereign Development Fund could receive a stable and predictable flow of funding from a portion of the investment income of the Savings Fund – this would provide much-needed stability in the funding arrangements for a gradually scaled-up development fund (otherwise, this fund will itself become beholden to debilitating boom-bust cycles driven by volatile resource revenues). The establishment of a sovereign development fund should, however, be a second-round reform, once the stabilization and saving requirements have been implemented.

Diversification: identifying growth industries through "Economic Complexity"

While the model proposed in the Harvard and Investec Institute research helps stabilise the funding arrangements for domestic investments, and potentially a sovereign development fund, an additional area of research by the Center for International Development (CID) at Harvard Kennedy School, provides invaluable insights into how to identify national sectors that promote sustainable economic growth and diversification.

The CID's analysis of Economic Complexity has resulted in a number of powerful theories through which to identify policies that promote diversification and sustainable long-term economic growth and development. Simply put, Economic Complexity can be deployed as a tool for assisting policymakers in identifying the most promising domestic sectors for growth and diversification.

Economic Complexity argues that development involves not just the increase of output in existing production, but also the increase in the diversity (i.e. complexity) of what is produced. The ability to successfully export new products reflects a country's acquisition of new productive knowledge that opens up further opportunities for progress. Ultimately, countries develop by, first, increasing the number of different activities they successfully engage in; and, second, by moving towards activities that are more complex. What a country needs to do to achieve greater economic complexity will be context specific – drawing in particular on the country's existing productive capabilities and knowledge. Countries are more likely to succeed if they focus on products that are close to their current set of productive capabilities, as this would facilitate the identification and provision of the missing capabilities.

The CID's research, presented in its Atlas of Economic Complexity (see Hausmann et. al., 2014) provides a detailed exposition of the number and the complexity of the products that countries currently export; as well as a country-by-country identification of the industries and products that offer the most promising route to greater complexity. As such, the dataset and tools in the Economic Complexity project help answer a number of the most important issues confronting national policymakers:

- What does a country currently import and export – that is, what are country's current "productive capabilities"?
- What sectors are most likely to drive export growth at the country level, given the existing productive structure?
- What are the growth prospects of a given country over the next decade?

Conclusion

The case for African sovereign wealth funds remains strong, despite the sharp fall in oil and other commodity prices in 2014. A major joint research project by the Harvard Kennedy School of Government and the Investec Investment Institute underlined the extent to which sovereign wealth funds are tried and tested institutions for managing the sometimes extreme volatility of resource revenues. Moreover, sovereign wealth funds are a means through which to transform a depleting natural asset into a permanent endowment of financial assets that provide a steady stream of revenue to governments.

No doubt, in the African context the role and contribution of sovereign wealth funds needs to be seen as part of broader efforts to diversify the economy and invest in much needed infrastructure. Sovereign wealth funds promote sustainability and stability around the achievement of these policy imperatives – one policy proposal outlined here is for the income received from a sovereign wealth fund to be channeled into infrastructure investments, possibly through a sovereign development fund. Certainly, sovereign development funds are a growing interest globally, and are an important consideration for African policymakers. More generally, the ground-breaking research into Economic Complexity by the Center for International Development at Harvard Kennedy School of Government is an invaluable tool for identifying new growth industries and sectors, and can as such be used to steer government efforts at diversification and infrastructure investment.

Accessing the Harvard-Institute research

This note draws on the research conducted by the Investec Investment Institute, in partnership with research centres of the Kennedy School of Government at Harvard University. The reports published based on this project, can be found at the following websites:

http://belfercenter.ksg.harvard.edu/publication/25300/institutions_and_policies_for_managing_sovereign_wealth.html

http://www.investecassetmanagement.com/united-kingdom/professional-investor/en/insight/investment-institute/managing-sovereign-wealth

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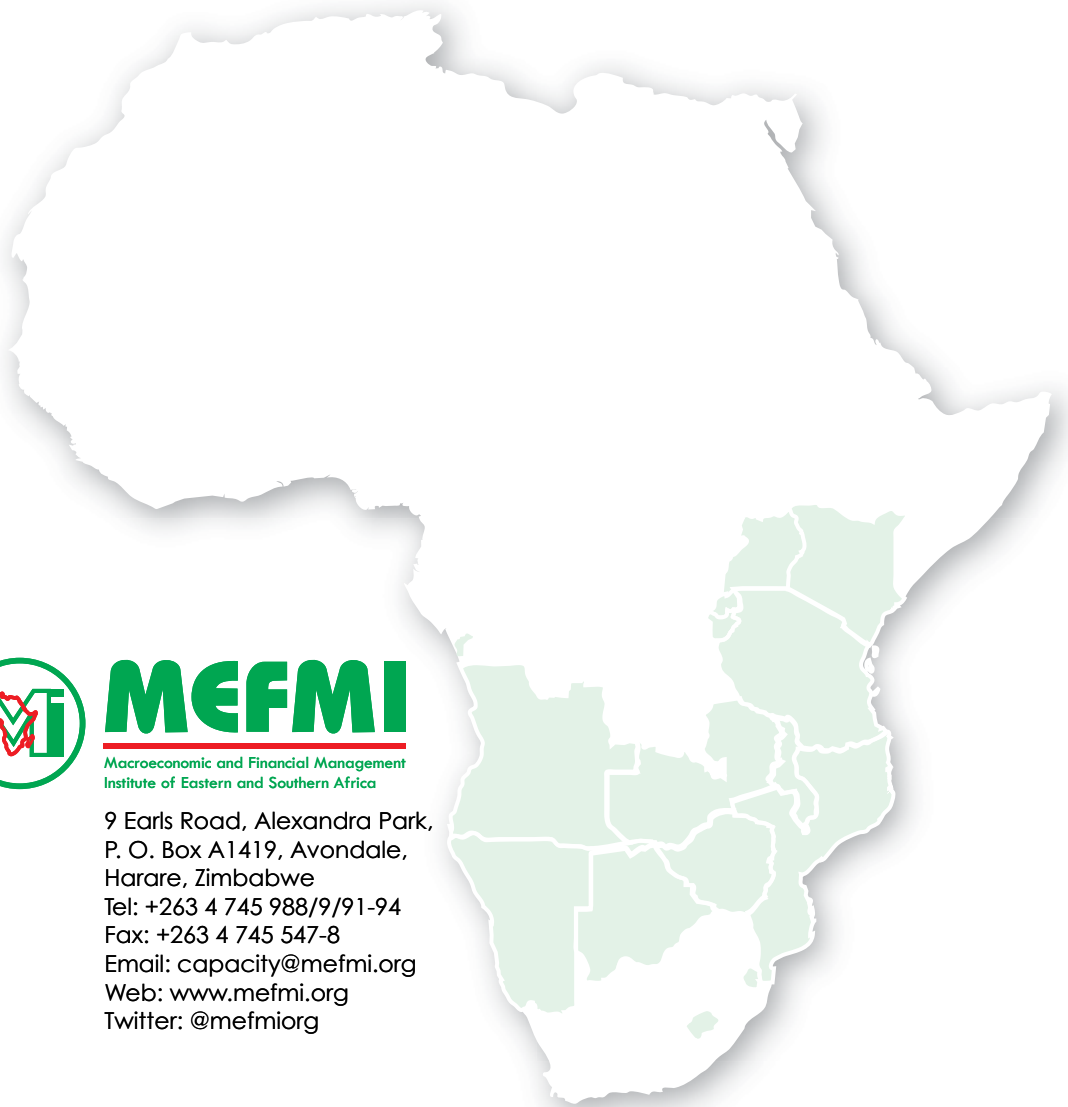

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