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ORIGINAL PAPER

Impact of market-based financing on Africa's debt and development

Xiaoyang Tang[1] · **Shuai Pan**[1]

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Abstract

African countries have been struggling with debt distress for decades. This paper focuses on the continent's recent effort to finance through issuing international bonds and borrowing commercial loans after the heavily indebted poor countries (HIPC) programs. At the start of the twenty-first century, when African economies were performing well, the international capital market was eager to offer favorable conditions and facilitate their financing. However, as economic growth has slowed in Africa in recent years, the market has imposed stricter rules and put significant pressure on the borrowers' fiscal health. Through a comparison with Chinese financing approaches, the paper illustrates two main new trends in Africa's development financing activities and analyzes their diverging logic and possible impacts. While the Western private institutions consider loans primarily from the perspective of financial market, the Chinese creditors stress the role of financing in comprehensive industrial development. In spite of the difference, all parties should communicate, coordinate and adjust to achieve the coexistence of multiple financing approaches for the purpose of sustainable growth in Africa.

Keywords Africa · Capital market · Bond · China · Industrialization

1 Increase of international bonds in Africa's debt structure

In recent years, the debt problem of African countries has once again become the focus of international attention. Zambia declared debt default in November 2020, Ghana in November 2022 and Ethiopia in December 2023. A number of other African countries, such as Kenya, Angola and Mozambique, are also facing mounting debt stress and default risk. Heavily indebted countries consequently face more financial challenges and have difficulty acquiring new funds. Normal disbursements and development activities stall, severely disrupting the socio-economic orders in

✉ Xiaoyang Tang
tangxyang@tsinghua.edu.cn

[1] Tsinghua University, Mingzhai 320, Beijing 100084, China

these countries. This paper aims to analyze the reasons for the new wave of debt stress in Africa and offer recommendations for future development financing strategies on the continent.

First, the prevailing narrative that the recent debt distress in Africa stems from a “debt trap” caused by excessive and detrimental lending by China is largely inaccurate. Scholars have plausibly debunked the myth by showing that China neither intends nor practices trapping African countries in debt to control African assets (Brautigam 2020). In addition, China only counted 19% of public debt stock in low-income Africa 2020, whereas international commercial bonds alone constituted 32% of their debt (World Bank 2022). In the case of Ghana, China’s share only counted less than 5% of the total public debt as of 2022. Even in the case of Zambia, which has “the highest number of Chinese lenders” of all African states, Chinese debt only represents 17.6% of the country’s total external debt payments 2020 (Hsiang 2023). Both countries’ debt defaults were triggered by the failure to repay their international commercial bonds in time, which made up 38.7 and 24.7% of Ghana and Zambia’s public external debt (World Bank 2021). Ethiopia’s default in December 2023 also highlighted the critical role of bonds. Although the country only issued $ 1 billion Eurobonds, counting 4% of its total debt stock as of end 2022, the inability of paying $ 33 million interests of bonds triggered default and credit downgrading of the country.

In fact, international bonds, mainly in the form of Eurobonds, and other commercial loans have largely contributed to the current debt burden of sub-Saharan African countries.[1] The issuance of sovereign bonds have notably accelerated over the past decade, with their stocks quintupling from just $22.6 billion in 2009 to $136.6 billion in 2020. In contrast, the bilateral debt of African countries has roughly only doubled in the same period, amounting to $114.9 billion in 2020. Similar phenomena have been observed in other developing regions such as South Asia and Middle East (World Bank 2020). In addition, the coupon rates on 10-year Eurobonds issued by African countries in 2013–2019 are around 4–10%, while bilateral and multilateral debt rates are much lower. Considering the generally high interest rates on international bonds, the financial cost of international bond debt service accounts for a higher percentage of the cost of debt for these countries (African Development Bank 2021). Low- and middle-income countries paid 63.2% of their total interest payments on international bonds in 2020 while only paying 9.8% for bilateral debt (World Bank 2022).

2 Africa’s experiments in global capital market

The surge in international bonds is just a part of Africa’s latest attempt to tap into global capital markets for financing in the twenty-first century. Historically, African countries have relied heavily on external debt to obtain foreign capital since gaining

[1] Eurobonds refer to bonds issued by a government in foreign bond markets in the denomination of a third country’s denominated currency (usually U.S. dollars or euros). Since this kind of bond issue originated in Europe, it is called “Eurobond”.

their independence. In the 1980s, the prices of primary products dropped sharply, resulting in an abrupt decline in foreign exchange earnings of African countries. The ratio of public and publicly guaranteed (PPG) debt stock to gross national income in Africa reached as high as 70% in early 1990s, posing a huge fiscal burden for many African countries. In response to this, the International Monetary Fund (IMF) and the World Bank launched The Heavily Indebted Poor Countries (HIPC) initiative in 1996 to create a multi-stage debt relief arrangement for the countries in debt crisis. To enhance and complement HIPC debt relief measures, the international financial institutions further launched Multilateral Debt Relief Initiative (MDRI) in 2005. In total, 39 countries, most of which are from Africa, participated in the HIPC/MDRI programs. After adopting the economic reform policies required by IMF, these countries could get a substantial hair-cut of their debt. By 2019, 36 HIPC countries have reached their completion points (IMF 2019).

Although the countries which completed the HIPC/MDRI requirements had their existing debt relieved, they now face the challenge of securing new sources of funding. This is because after the 1990s, developed countries significantly reduced their official bilateral lending to Africa and other developing countries. In this context, financial instruments in the global capital market, such as Eurobonds and loans from private banks, became attractive options.

In the past, only countries with high credit ratings would be able to secure funding through Eurobonds. Low-income African countries have long had difficulties in accessing financing in international capital markets due to their not-so-strong economic performance and below-average ratings. Because of the commodity boom and economic surge of African countries in the early twenty-first century, coupled with the general tepid economic growth in developed countries in Europe and the United States, financial institutions hoped to find high returns in external emerging markets. As a result, Eurobonds have seen a surge in Africa over the past decade. Most African countries only started to issue sovereign bonds in international capital markets starting from 2007. However, this practice become significantly more popular among these nations by 2021. More than 20 African countries now hold one or more outstanding Eurobonds, and in 2021 alone, African countries issued $11.8 billion worth of Eurobonds.

In particular, the larger and relatively wealthy emerging economies in Africa were leading the trend. South Africa became the first sub-Saharan African country to issue a Eurobond in 1995, when it ranked third in Africa in terms of GDP per capita. It was followed by Seychelles, which was the second to issue a Eurobond in 2006, when it ranked first in Africa in terms of GDP per capita. As shown in Fig. 1, the cumulative Eurobond issuance size ranking of African countries over the period 2000–2022 is strongly correlated with the country's level of economic development, with a country more likely to issue bonds when it has a larger economy, higher GDP per capita, lower public debt, and more effective government (Presbitero et al. 2016). The correlation between bond issuance and economic development level is reasonable and common. However, many African economies depend on commodity exports and experience large fluctuations as the global commodity market prices go up and down. The commodity boom prompted African countries to issue bonds, but it also planted a ticking time bomb within their financial strategies.

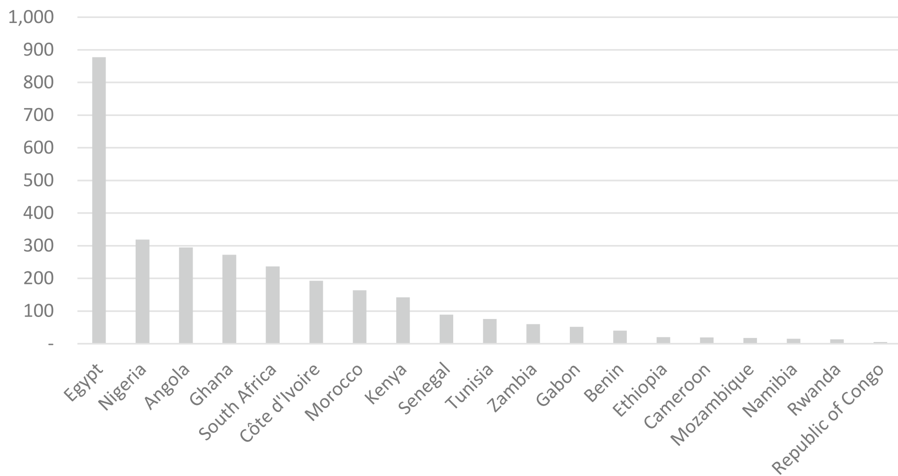

Fig. 1 African countries' outstanding bonds in 2022 (US$ billion). Data Source: Bloomberg

In addition, expansionary fiscal policies have led to a surge in sovereign bond issuance in African countries. Most African countries ran widening fiscal and current account deficits ahead of Eurobond issuance. Namibia and Kenya, for example, had fiscal deficits close to 5% of GDP when they entered international capital markets in 2011 and 2014, respectively (Chuku and Yenice 2021). As concessional loans from multilateral and bilateral sources have been significantly reduced following the termination of the HIPC, there has been an urgent need to open additional sources of financing. The size of bonds is also highly correlated with tax revenues. A major reason for the continued increase in sovereign debt in African countries is the failure to generate sufficient tax revenues to service the debt raised for economic development and infrastructure (The African Legal Support Facility 2019). Countries that have made efforts to raise domestic tax revenues, such as Rwanda and Kenya, have more sustainable sources of revenue than countries that rely on commodity exports. Over the past 15 years, sub-Saharan Africa has seen a decline in both real and absolute tax revenues due to a weakened fiscal capacity. Tax revenue to GDP ratios in some countries are below 15% and are not even sufficient to fund the basic government budget. As a result, these countries had not choice but to turn to international capital markets for financing (Mutize 2021).

Another reason African countries issue Eurobonds stems from the urgent need for foreign currency, which is crucial for importing industrial and capital goods. These imports are not only used for consumption but also for production and services, which are necessary to support industrial transformation and generate spillover effects. Studies show that most of the sub-Saharan African countries that issued Eurobonds after 2005 were countries with low foreign exchange reserves to imports ratios and countries with high trade deficits (Olabisi and Stein 2015).

3 Private financial institutions' roles in Africa's debt

When an African country plans to issue a sovereign bond, it needs to engage one or more investment banks to act as lead managers or arrangers for the issuance. The investment bank plays a key role in coordinating the issuance, marketing, and request for quotations. It assists the issuer in determining the financial terms and the timing of the proposed offering and helps to distribute the bonds to investors in selected markets. The fees charged by the banks for this service are estimated to be approximately 0.05–0.225% of the bonds' face value (Van Der Wansem et al. 2019). A study of 62 low- and middle-income countries, launched by the European Network Committee on Debt and Development (Eurodad) in May 2021, shows that the top 10 underwriters of developing country sovereign bonds are all from U.S. and European countries, including Citigroup, Deutsche Bank, JPMorgan Chase, Standard Chartered, Bank of America, HSBC, Goldman Sachs, Barclays, Societe Generale, and Credit Suisse. These ten investment banks participated in a total of 440 bond issues, equivalent to 80.1% of the total issuance. The dominance of these investment banks in underwriting sovereign bonds dates to the early 1990s. Due to high transaction costs, countries tend to rely on the same investment banks to issue bonds over time, which has led to the growing market power of large underwriters. Their ability to provide countries with a broader network of investors and better financial conditions has further driven their market share (Munevar 2021).

After a series of underwriting and packaging processes by investment banks, Eurobonds issued by African countries will formally enter the international bond market and be subscribed by bond subscribers around the world. After the issuance is completed, these sovereign bonds remain liquid in the secondary market. Due to the relatively lower sovereign debt ratings of African countries compared to developed nations, their sovereign Eurobonds have higher coupon rates and corresponding holding yields. This makes them an attractive option for many institutional investors in the international bond market. Angola's 10-year fixed bond issue in early 2022 was more than twice as oversubscribed at a coupon rate of 8.75%, raising $1.75 billion. South Africa followed with a $3 billion Eurobond issue in April 2022, which was oversubscribed by a factor of 2.4 and ultimately raised more than $7.1 billion (Saigal 2022). The capital market has made it easy for African countries to obtain substantial financing, with major investors including fund managers, insurance and pension funds, hedge funds, and commercial banks.

Table 1 lists the major holders in the Eurobond market for sovereign bonds issued by 12 developing countries, of which eight African countries are included.[2] These data show that, without exception, the top 15 holdings are exclusively from Western developed countries, including many of the world's leading investment institutions. The combined holdings of these institutional investors in the sovereign bonds of these developing countries amounted to 50% of the total global holdings. Among them, investment firms from the United States subscribed the highest number and

[2] The following developing countries are listed in alphabetical order: Angola, Argentina, Brazil, Cote d'Ivoire, Chile, Egypt, Ghana, Kenya, Sri Lanka, Nigeria, Tunisia, and South Africa.

Table 1 Major subscribers of sovereign Eurobonds of 12 developing countries

No	Company	Holdings (Million USD)	Share %	Number of securities
1	BLACKROCK	7,978.44	14.35	111
2	ALLIANZ SE	5,333.13	9.59	107
3	VANGUARD GROUP	2,005.12	3.61	96
4	FMR LLC	1,405.31	2.53	48
5	JP MORGAN CHASE & CO	1,372.76	2.47	97
6	ALLIANCE BERNSTEIN	1,353.51	2.43	72
7	ROYAL BANK OF CANADA	1,210.35	2.18	75
8	NEUBERGER BERMAN GROUP LLC	1,121.80	2.02	61
9	INTESA SANPAOLO SPA	1,116.47	2.01	97
10	MASSACHUSETTS FINANCIAL SERVICES	990.41	1.78	36
11	KBC GROUP NV	928.28	1.67	17
12	CAPITAL GROUP COMPANIES INC	913.80	1.64	53
13	UBS	871.88	1.57	102
14	CREDIT AGRICOLE GROUPE	871.70	1.57	88
15	PRUDENTIAL FINANCIAL INC	788.98	1.42	106
	Total	22,928.80	50.84	–

Sovereign Eurobonds include all outstanding, prospectus-bearing Eurobonds

Source: Bloomberg

amount of securities covered by sovereign bonds. BlackRock topped the list of subscribers with the highest total holdings.

Based on the above analysis and data, it is evident that institutional investors from advanced economies in Europe and the United States have deep-pocket capital and a high degree of profit-seeking tendency when subscribing to African countries' sovereign bonds. When financial markets exhibit relatively low risk aversion, developing country sovereign bonds become an important target for these institutional investors. This is due to their higher coupon rates, coupled with the generally lower default risk and higher creditworthiness of sovereign bonds when compared to corporate bonds.

Another critical factor in the international capital market is a country's credit rating, which greatly determines the interest rate of the sovereign borrowing and also the demand of creditors (Pu 2020). The international rating of B- was usually considered to be the lowest rating for international capital market issuance. However, driven by their pursuit of high yields, investors have been increasing their acceptance of credit risk and pricing in the risk of default in a low interest rate environment. A number of low-income countries have successfully issued sovereign bonds despite having sovereign ratings below B-. Moreover, many African countries continue to issue Eurobonds even though their credit ratings have been downgraded since the initial Eurobond issuance (Chuku and Yenice 2021). The demand for investment by

international financial capital, in defiance of traditional risk management rules, has led to a surge in sovereign bond issuance in Africa.

Lower ratings imply higher yield spreads for new bond issues. In total, AAA issuers may pay spreads of only 10–20 basis points above the risk-free reference rate, while single-B rated countries may pay 600 basis points or more. Most Eurobond coupon rates in developed countries are below 2%, yet according to the African Development Bank, 10-year Eurobond coupon rates for African countries issued in 2013–2019 are between 4 and 10% with a slow upward trend (African Development Bank 2021). The study shows that sovereign bond coupon rates for African economies are above normal, averaging about 2.9% higher than other countries with similar macroeconomic fundamentals or credit ratings (Olabisi and Stein 2015, 87).

The ratings of developing countries by the major Western credit rating agencies are relatively "short-sighted" and procyclical, and do not sufficiently account for the performance of African countries in terms of governance and economic development in the medium and long terms. Statistics show that fluctuations of commodity prices within 5 years between 2014 and 2018 greatly impacted the rating agencies' evaluation of African countries (Olabisi and Stein 2015, 87). During periods of high global liquidity and commodity prices, resource-rich African countries are also viewed positively and correspondingly have higher ratings and relatively lower bond issuance costs. However, if the resource commodity prices fall, these countries may need additional financing to keep their economies afloat. This could lead to rating agencies downgrading their credit ratings. Another empirical study of 27 African countries between 2007 and 2014 shows as well that Fitch and Moody's credit rating of African sovereigns moved up and down frequently with the global commodity market cycle (Pretorius and Botha 2017, 537–546).

4 Fiscal impact of private borrowing on Africa

IMF research indicates that the main impact of borrowing from international capital markets is on the composition of public debt rather than the level of public debt. The vast majority of countries experience a slight deterioration in their primary fiscal balance after the issuance of sovereign bonds (Mecagni et al. 2014). The surging bond stock in Africa has led to higher debt service costs, reduced fiscal space, and in some cases, jeopardized macroeconomic stability. Sub-Saharan Africa's debt grew from 35% of GDP in 2014 to 55% of GDP in 2019, with interest repayments becoming the highest spending component of fiscal budgets and debt service consuming on average more than 20% of government revenues in African countries as the fastest growing expenditure (Coulibaly et al. 2019). African countries also issue Eurobonds with significantly shorter maturities than bilateral or multilateral borrowing. The maturity of Eurobonds issued by African countries in the early years ranged from 5 to 10 years. In addition, although the maturity of Eurobonds issued after 2014 have been extended, long-term bonds account for a relatively small share. In contrast, the average maturity of bilateral and multilateral concessional loans received by African countries is more than 25 years. Under the dual influence of concentrated debt issuance and short

maturity of bonds, African countries are expected to face the problem of concentrated maturity of bonds in 2021–2025 and the first peak of debt repayment in 2023–2025. According to statistics, the amount of Eurobonds maturing in Africa by 2025 totals more than USD 106 billion.

However, the COVID-19 pandemic and the global economic slowdown that may last for the subsequent 3–4 years mean that African countries will continue to be challenged by widening fiscal deficits, which will undermine the countries' ability to refinance. In 2020, sub-Saharan Africa experienced its first recession in half a century, with GDP falling by as much as 2.1% and foreign direct investment flows falling 18% from about $45 billion in 2019 to $37 billion in 2020. African countries' fiscal deficits doubled, reaching a record high of 8.4% of GDP by 2020. The risk of refinancing will be further magnified by the accumulation of debt combined with economic slowdown. By the time debt service peaks, debtor countries may experience a sudden reduction in public spending that could have severe repercussions for their national development. Infrastructural and public works projects may stall, overall social output may decrease, and unemployment may increase sharply.

The severe debt situation and impending debt service peaks are likely to cause more African countries to experience credit rating downgrades and reduced access to international capital markets. Of the 32 African countries rated by one or more of the three major credit rating agencies (Moody's, Standard & Poor's, and Fitch), 18 have experienced credit downgrades as of 2021 (Fofack 2021). After a credit rating downgrade, these countries face the prospect of securing future financing at higher costs, and they might even find themselves completely shut out from capital markets. It is already evident that the spreads on African Eurobond issues are widening and that the number of new Eurobond issues has declined (Aloysius et al. 2021). At the same time, as the Federal Reserve of the US raises interest rates and shrinks its balance sheet, the US dollar has significantly appreciated. This shift encourages international investors to move their capital from emerging markets back to developed economies, such as the US. A massive sell-off of bonds issued by emerging economies would lead to a decline in their bond prices and an increase in bond yields. The massive capital flight, will, in turn, trigger a depreciation of African countries' currencies, causing the size of bonds denominated in foreign currencies to rise. Many countries may not have the necessary liquidity to service their debt. If payment dues are missed, there will be widespread defaults and restructuring agreements. The combination of the factors mentioned above could very easily lead to huge short-term economic liquidity difficulties in regions like Africa.

5 Reflections on Africa's borrowing from global capital market

The issuance of international bonds by African countries is a form of market behavior, but its main driving force stems from the desire of international financial capital to pursue high returns. Admittedly, African countries also have a demand for funding as a result of expansionary fiscal policies. However, with the international financial market providing convenient and abundant funding, these countries are no longer subjected to the strict scrutiny and constraints

associated with traditional bilateral and multilateral loans. Private investors from the advanced economies respond enthusiastically to bonds issued by developing countries completely out of their own commercial interests. Their operations mainly follow the practices of mature markets in the world, which meet the investors' strive to obtain high returns in the short term but neglect the vulnerability of the economic structures and the peculiarity of the long-term development of African countries. Specifically, commercial bonds and loans by private banks present the following three risks to the debt sustainability of African countries.

5.1 Procyclical commercial behavior is not conducive to small- and medium-sized economies

As discussed above, the pricing, subscription and rating of Western financial institutions are procyclical. In the period of high global liquidity and commodity prices, African countries that mainly rely on mineral and energy export enjoy economic prosperity. Subsequently, they are also more likely to borrow commercial loans, issue sovereign bonds and enjoy high ratings while the cost of borrowing is relatively low. However, if the global economy is in recession and the prices of resources decline, these countries may need to increase their borrowing to sustain economic stability. Under these circumstances, rating agencies would downgrade their credit ratings. Meanwhile, new loans need higher interest rates to attract investors, which exacerbates the situation. Although developed countries also face similar superimposed market fluctuation, developing countries usually have less revenue sources and smaller economic volume, so they are more likely to face crisis or default. In addition, as the Eurobonds are mainly denominated in the U.S. dollar. When the liquidity of the dollar is loose and the exchange rate is low, it is easy to issue Eurobonds. However, when the U.S. dollar has higher interest rates and the exchange rates rise, a large amount of funds flows out of developing countries. This means that bond-issuing countries have to borrow money and repay debts at high interest rates and exchange rates during a period where liquidity is at its tightest, forming another superimposed impact.

5.2 Short-term commercial lending does not fit the development rhythm of African countries

International commercial bonds are not only short-term, but their maturity also concentrates. Infrastructure construction and production projects in African countries typically require a lengthy completion time. Some of them require more than 10 years to yield benefits, and the prospect of revenue is not guaranteed. This means that bond-issuing countries have to frequently look for other sources of foreign exchange or issue bonds with higher interest rates to repay their maturing debts, further squeezing their limited liquidity and disturbing the normal economic order. For example, Ethiopia issued Eurobonds in 2014 to

finance the construction of 10 state-owned sugar manufacturing projects, but the development of the sugar industry was far from smooth. The planting areas of sugarcane, e.g., Kuraz, decreased. The decline of sugar output left the Ethiopian government unable to repay the debt and interest, putting a heavy debt burden on the government. If the issuing country fails to find money to repay the matured debt, it will default, making future financing extremely difficult. The timing of international financial capital is mainly based on the mature economic activities of developed countries and is not flexible or tolerant enough for the liquidity challenge faced by developing countries.

The commercial creditors are more reluctant to renegotiate the debt or extend repayment period than the bilateral and multilateral creditors. When the World Bank and the IMF encouraged private creditors to provide comparable debt relief as the G20s' Debt Service Suspension Initiative (DSSI). Hardly any private creditors participated. Commercial contracts, rating agencies, legal obstacles in New York and London, and other factors restricted private banks and bondholders from reaching debt relief agreements with the borrowers in Africa (Munevar 2020).

6 Capital market lacks supervision over usage and neglects to cultivate long-term capacity

Unlike bilateral or multilateral loans, Eurobonds and many commercial loans do not limit the purpose of use, and funds can be utilized for non-productive expenditure. The investors do not care about the use of funds. They only measure the investment risk according to the overall macroeconomic performance of the country, seeking to capitalize on high prices and high interest rates while neglecting to supervise or pay attention to the usage of funding. However, under the surface of freedom, the use and management of such a large amount of funds that arrive suddenly is a great challenge for African countries without stable sound political and economic systems. Sometimes, funds are used to fill fiscal gaps or serve short-term political goals. The authorities neglect to invest the fund in projects which improve productivity and generate revenue, thus failing to nurture sustainable long-term development. In 2019, Edward Ouko, the auditor general of Kenya, submitted a special audit report to the National Assembly of Kenya, stating that although his office could confirm that $2.15 billion Eurobond proceeds had entered into Kenya's National Exchequer Account, the audit office could not determine which development projects the money was specifically used for, or whether it is really used for development projects as stated in the bond issuance because the National Treasury did not disclose the specific purpose of the money (Njagih 2019).

In the past 3 years, African countries have been plagued with debt crises. Especially after the COVID-19 pandemic, almost all the new Eurobonds, issued by Benin, Côte d'Ivoire, Kenya, Morocco, Gabon, Ghana, Egypt and others, have been used to support non-productive short-term expenditure, cover budget deficits and repay maturing bonds. This practice of African debtor countries has turned Eurobonds into an expensive source of short-term disposable income. Long-term priorities, such as crucial infrastructure and economic diversity, have been shelved.

Consequently, the income from Eurobonds only serves to fill the fiscal gap while failing to generate additional fiscal revenue, leading African countries to fall into a vicious cycle.

7 China's evolving experiments to provide funding for Africa

Another notable trend in Africa's development financing in the twenty-first century is the rising portion of loans offered by China. In 2000, the amount of Chinese loans to sub-Saharan Africa was negligible. However, by the end of 2018, China has become the largest bilateral creditor to the region, accounting for 22% of sub-Saharan Africa's debt stock. The policy makers and media in the West often view the growth of Chinese loans with suspicion, accusing them of using "debt trap" to expand China's influence in Africa, even after scholars proved the fallacy of such narrative (Brautigam and Rithmire 2021). Over 90% of the Chinese loans do not fall into the category of concessional loans or foreign aid as defined by OECD-DAC, but are commercial loans. While the West accuses Chinese state-owned banks of being arms of the Chinese government, China maintains that these banks operate solely as commercial entities, similar to their counterparts in the West and the Middle East.

However, in spite of their commercial nature, Chinese banks hold contrasting views on lending strategies in Africa. China Exim Bank Chairman Li Ruogu elaborated the following guidelines on how China has extended new credits to developing countries in 2007. 1) The primary objective of lending is to foster development. Creditors should not cut off loans to developing countries because of their heavy debt burdens; this would have a negative impact on development, making it even harder for them to make timely repayments and causing them to fall into a vicious circle. 2) Western financial institutes neglect to take into account dynamic development and the potential positive impact of new loans. They overly use fixed evaluation criteria mostly derived from hypothetical linear models, whereas the circumstances of developing countries are often very different. 3) When China Exim Bank assesses loans, it pays more attention to receiving countries' actual situations, and it grants loans for specific projects with the vision of effectively strengthening the countries' ability to pay off debts and establishing a virtuous cycle. 4) Some projects with substantial social welfare benefits may be financially unfeasible. Only in such cases, concessional loans will be offered (Li 2007, 63–72).

These points are just the views of a Chinese banker. I do not claim that the Chinese approaches are necessarily better than the Western ones. However, it is evident that Chinese creditors have a unique way of evaluating commercial profitability. Instead of directly pursuing high interest return, Chinese banks first lay emphasis on fostering the comprehensive development of borrowing countries. In their opinion, only when the funded investments lead to effective productivity improvements and revenue growth with infrastructure construction and industrial development, they can ensure sustainable financial return. Hence, most of Chinese loans to African countries are linked with concrete industrial and infrastructure projects with the vision of driving extensive economic transformation in these countries, similar to the development observed in China. Wang and Xu demonstrate that China-financed

completed projects are matched with bottlenecks in 78% of the hard infrastructure projects and 74% of soft infrastructure projects in Africa 2000–2017 (Wang and Xu 2023). Actually, Chinese institutions have prioritized commercial loans over pure aid also for the reason that market-oriented engagements may better stimulate long-term economic growth according to China's own experience (Tang 2020).

In this connection, China does not identify the cause of Africa's debt stress simplistically as over-lending, because Africa still badly needs investments in infrastructure. The real problem is the lower-than-expected growth generated by the infrastructure projects, which derails fiscal consolidations. Correspondingly, the Chinese stakeholders do not focus on cutting off debt in Africa now, but attach more importance to ameliorating the investment effectiveness through building the "interactive mechanism between large-scale infrastructure and industrial development" (Lin 2016). As a BRI document states, "productive investment, while increasing debt ratios in the short run, can generate higher economic growth …… leading to lower debt ratios over time" (Ministry of Finance of People's Republic of China 2019). For instance, industrial projects are developed in coordination with the new railways constructed. To more efficiently handle the increased amount of freight from the Ethio–Djibouti Railway, the railway constructors brought in China Merchants Group to build a new port in Djibouti (YICAI 2016). Chinese and Ethiopian governments signed an additional agreement in October 2023 to build a number of supporting facilities to smoothen the operation of the new railway. As of 2023, China has invested and loaned more than $ 120 billion to Africa, with all funds directed towards infrastructure construction and industrial cooperation (CCTV 2023).

In consistence with the loaning guidelines and drawing lessons from previous debt crises, China refuses to cancel the commercial loans to African countries as the HIPC/MDRI programs did, even though Chinese banks allow renegotiation of the commercial loans in flexible manners and made the largest contribution to the DSSI debt suspension during 2020–2021 (Jubilee Debt Campaign UK 2021). The rationale behind this paradoxical position is that Chinese creditors consider temporary relief necessary in the case of emergency, but view a permanent "hair-cut" as unhelpful for the sustainable development. Debt cancellation tends to lure the borrowers to repeatedly seek relief in the future and distract them from concentrating on productivity growth, which should be the real solution to the perennial debt problems.

8 Comparative analysis

To summarize, since the beginning of the twenty-first century, the market mechanism has increasingly played a significant role in Africa's development financing. Both private financial institutions in the West and emerging creditors like China provide large amount of commercial loans for African countries. This influx has significantly altered the debt structure of African countries, which previously relied on bilateral and multilateral concessional loans. Market-based loans offer advantages such as expanding funding sources, adding flexibility and

better responding to demands, thus they have quickly gained popularity among African borrowing countries. However, market inevitably has fluctuating cycles. As the global economy has been forced to navigate through significant turbulence in recent years, African borrowers face serious challenges to repay debts and keep financial balance.

Despite the common emphasis on market-driven approaches, the Western private banks and the Chinese creditors fundamentally differ in their views on development financing, especially in regards to the downward market. The private banks, being the dominant players in the global financial market, primarily follow the established rules of capital to treat the new comers in this market, from issuing, and pricing to trading and rating. It means that African countries have to accept the procyclical fluctuation, strict commercial terms and laisser-faire principles as the necessary costs paid for receiving the funds. By comparison, Chinese banks view the capital market rather as a means to an end. Commercial profits of the state-owned banks, albeit important, should serve the higher purpose of "win–win" development for both China and Africa. Consequently, lending practices should be adapted to better fit the conditions and industrialization needs in Africa. The borrowing and repayment of debts should all be arranged with the aim of achieving sustainable productivity growth, which can also ultimately guarantee debt sustainability.

Using Karl Marx's theory, we can illustrate the Western approach with the formula for financial capital M–M', namely money (M) seeks value surplus (M') simply through interest bearing. The Chinese approach, which eyes comprehensive growth, can be described with the general formula for capital M–C–M', namely money (M) is invested to produce commodity (C) and then exchange it to achieve more value (M') (Marx 1867, 116–118). Monetary gain and productivity growth are inter-dependent and mutually promote each other. In actuality, the general formula is the basis for sustainable financial capital gain as the interest rates are linked to overall economic performance. The financial capitalists are of course direct, specialized and thus able to promptly meet financial demands. They may, however, fail to pay sufficient attention to real productivity improvement in the long run. Conversely, project-focused financing must consider the financial market, otherwise if the revenue of projects lags far behind the profit of the financial capital, the funds may be diverted away from these projects.

Both Western and Chinese approaches will probably coexist in the world for the foreseeable future. African countries not only need to work with both types of creditors, but should also find the optimal manner to profit from the competing alternatives. On the one hand, the mainstream capital market with tremendous financial resources is certainly an attractive option for countries craving investment. Yet, while pure commercial activities tend to add icing on the cake, they rarely act as a lifeboat in a storm. Small and inexperienced African countries lack the power to influence the gigantic international financial market. The convenience and benefits enjoyed during the economic upward cycle bear risks and burdens in the downward cycle. Although African countries have more financing channels than ever before, they are also more likely to fall into the trap

of a vicious debt circle driven by capital. African countries must be vigilant when entering the financial market to properly protect their own development priority vis-à-vis the capitalists' interests.

On the other hand, the Chinese approach is still an ongoing experiment. China's own development success has set an inspiring example for the African partners, but Africa's unique complex situation poses unforeseeable challenges for the new form of financing. With all the common political vision of win–win development in the global South, the real path of constructing a better financing model tailored for Africa's needs will be treacherous and the outcome is still unpredictable. Exploring the alternative is certainly worthwhile due to the long-term benefits for developing countries, but people should be aware of the immense risk and uncertainties involved. In fact, Chinese banks have encountered such immense political–economic difficulties in Africa since 2016 that they have sharply reduced the lending amount to Africa, from 28.27 billion USD in 2016 to 1.857 billion USD in 2020 (China Africa Research Initiative 2022). The drop of Chinese loans was certainly related to the international financial market downturn, which was caused by commodity price decline, COVID and high USD interest rates. However, Chinese institutes made the drastic reduction not only out of commercial consideration like the procyclical private bankers. At the 2023 BRICS Summit in South Africa, Chinese officials highlighted an intention to cooperate with African countries on industrialization, which is both a continuation and a nuanced shift of the previous policy (Plessis and Anders 2023). As infrastructure in some African countries have been largely underutilized, China hopes to boost productivity by adding industrial projects related to these infrastructure projects. Correspondingly, the funding manners for the industrialization process have been changing as well. Instead of offering loans, China has increased investments to circumvent the debt controversy in the new political–economic environment. China's foreign direct investment flow to Africa grew from 23.99 billion USD in 2016 to 42.26 billion USD in 2020 (Ministry of Commerce of PRC et al. 2023).

Last but not least, international financial institutions such as the World Bank and IMF should coordinate both approaches and facilitate their convergence. The global financial market requires fundamental reform as its traditional structure can no longer meet the demands of the rising Global South. Nonetheless, the new experiments among developing countries should not exacerbate the discrepancy in today's global system, which has already been plagued by geo-political tensions. As both approaches acknowledge the importance of the market, this may serve as the basis for integration. Designed to stabilize global financial system and boost common prosperity, the multilateral financial institutions should cooperate more closely with private institutions as well as the emerging creditors to provide a better market platform for developing countries. Through communication, coordination, adjustment and reform, people may aim to achieve a productive and interactive coexistence of diverse players, including Western donors, private investors, emerging creditors and multilateral institutions, for Africa's development financing, even if a thorough integration is not possible for the time being.

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Conflict of interest The authors declare that there is no competing interest regarding the publication of this article.

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