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MIGRANT REMITTANCES AND FINANCIAL SECTOR DEVELOPMENT: NEW EVIDENCE FROM NIGERIA

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ABSTRACT: *This paper analyzes the impact of remittances on financial sector development in Nigeria using data for more than four decades (1980-2022). The study applies the error correction mechanism because of its ease of implementation, power and robustness as well as its role in explaining stationarity among economic variables. The empirical analysis shows that remittances promote financial sector development during the period with evidence that policies and programmes to improve the financial sector in the previous period impact significantly on the financial sector. The result also shows that increases in export and gross national product per capita promotes financial sector development in a positive and significant manner while high inflationary trend is detrimental to financial sector development.*

KEYWORDS: Remittances, Co-integration, Financial sector development.

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INTRODUCTION

There has been increasing interest in the developmental impact of remittances lately due mainly to the assertion that remittances are stable, counter-cyclical and have witnessed an increasing trend relative to other forms of foreign inflows. The World Bank (2022) forecasts a 5% increase in remittances to low- and middle-income countries (LMICs) to $626 billion in 2022. Remittances are now consistently higher than official assistance in countries such as Lesotho, Mauritius, Swaziland, and Togo than they were in Sub-Saharan Africa prior to the 1990s. The term "new official development assistance" now refers to remittances from workers, which have surpassed official development aid and are only second to foreign direct investment in terms of external development money for impoverished countries (World Bank, 2022). Migrants and diaspora organizations are now more than ever before investing and adopting intervention strategies in various sectors of the home economy, such as banking and capital markets, health care, education, small and medium scale enterprises etc in order to reduce poverty and engender growth. The government of Nigeria, realizing the importance of involving its diaspora population which is put between 4-6 million people, took measures to encourage more constructive engagement of its citizens abroad, encouraged the formation of Nigerian in Diaspora Organisation (NIDO) and identified five key areas of collaboration with this organization which include education, health, science and technology, investment and culture and tourism.

It is expected that this kind of intervention will result in knowledge and human capital transfer, improved livelihoods at home, strengthen local institutions and thus long-run social, political and economic benefits. Even though the overriding belief has been that migration and, by implication, remittances have some beneficial dimensions, the question whether it actually results in economic growth and financial sector development in the home country in Nigeria has not been given the desired attention it deserves. This is especially so if viewed from the standpoint of the developmental role the financial sector plays in any economy, including its role in financial intermediation and proper pricing of financial assets which are critical to investment and thus growth.

The investigation of the role of remittances in financial sector development is timely and important too especially in the face of increasing remittances through banking official channels in Nigeria since some researchers have argued that recipients of remittances through the banking system tend to multiply the developmental impact of remittance flows as they tend to have other financial products and services available to them from which to leverage funds for investments purposes (Eke & Eke, 2023; World Bank 2006; Orozco & Fedewa, 2005; Terry & Wilson, 2005).

There appears to be a two-way relationship between remittances and financial sector development. On the one hand, a well-functioning financial market with lower costs of transaction may help direct remittances to sectors with a high yield in terms of returns, which will enhance financial development. Conversely, remittances can compensate for a bad financial system by loosening liquidity constraints; potential entrepreneurs could use remittances whenever the financial system does not help to start productive activities due to lack of collateral or high lending costs (Shahbaz, Qureshi & Aamir, 2007).

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Nigeria's International Migration Trends

Over one-third of skilled manpower from Africa, made up of over 20,000 professionals such as lawyers, medical doctors, academics, engineers and sports professionals, leave the African continent yearly since after the economic downturn and political instability that ravaged most countries in the continent in the 1980s and early 1990s. It is estimated that over 300,000 professionals of African descent are practicing in various parts of the world with a good number of them possessing post graduate degrees to the doctoral level in various fields of study (IOM, 2000). Other reasons usually adduced for this massive migration of professionals from the continent have been supported by other considerations such as civil and religious wars, lack of freedom including economic and social deprivations, insecurity, poor social infrastructure and poor governance systems. This has triggered off the massive migration of manpower in search of the gold field.

Most of these professionals, when settled in paid jobs abroad, send a part of their incomes back home for family upkeep and as investments. These funds are known as migrant remittances which over the years have been seen to be a major source of domestic investment for migrant relatives back home. Evidence shows that this has been seen over the years to have some effects on the home country's balance of payments situation, development of the financial systems and processes and also to boost economic welfare. In 2006, receipt of developing countries from remittances constituted 2.4% of GDP, 8.2% of exports and 10.4% of investments (OECD, 2006).

Nigeria plays a dual role as a source as well as a destination for migration in the sub-region: as a source because of international migration of her citizens to Europe, United States of America, South Africa and Asia, and as a destination because most of the country's West African neighbours in war and conflict situations find Nigeria a safe haven especially in the era of oil/economic boom in the 1970s. However, from the mid-1980s, the economic downturn, political instability, corruption and poor management of her resources occasioned by military dictatorships made Nigeria a rich source of vibrant young male and female migrants. Migration out of Nigeria is not only restricted to skilled workforce as even young unskilled citizens have left the shores of the country to do menial jobs like washing of corpses, washing of plates in hotels, being security guards, taxi drivers or road cleaners. Bah (2003) reveals that 50 to 80 percent of Nigerian households have a migrant member. This figure may even be slightly higher for some parts of Eastern and Western Nigeria where it has almost become a tradition to have an international migrant member in each household. Such migrant members of the family are seen as the family pride and foot most family bills while also in most cases investing in property and other businesses. Though the figures of actual Nigerian population abroad is inconsistent (United Nations – 1.1 million; Hernandez-Coss and Bun – 5 million; U.S census estimates 134,940 Nigerians in US), the estimates by Orozco (2007) using global migrant database is akin to that of Hernandez-Coss and Bun and puts the Nigerian migrant population at over 5 million. This was worked out using an average of 3.9 percent of the migrant population for countries with populations between 100–120 million people. The estimates are shown below:

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Table 1: Nigerians Abroad

S/N	Region of the world	3.9% of Nigerian population
1	East Asia and Pacific	37,879
2	Europe and Central Asia	954,155
3	Latin America and Caribbean	10,951
4	Middle East and North Africa	145,703
5	North America	763,401
6	South Asia	61,777
7	Sub-Saharan Africa	3,197,540
	Grand Total	**5,171,406**
Source: Orozco (2007); estimates from Global Migrant Origin Database		

The United States, United Kingdom and Southern Africa (including South Africa, Botswana, Namibia, etc) have the highest number of established Nigerian professionals including second and third generational citizens of these countries who still maintain close familial ties with relations back home. The emigrant Nigerian population in the United Kingdom for instance has a long history with a varied and diverse established professional population which includes the following categories: UK citizens of Nigerian descent, those who have the "right of abode" or permanent residence, those in UK on temporary status such as a student or work visa, those with illegal status due to expired visas and those who are undocumented.

Table 2: Nigeria-UK Migration History

1950s-1970s	1980s	1990s-present
Many Nigerians from elite and skilled sectors of the Population were encouraged to move to England to study and then return to Nigeria to take positions left by the departing British administration. The majority of these Nigerian communities have been established in the UK since the 1960s following independence from Britain	A significant wave of Nigerian migration to the UK began in the mid-1980s, after Nigeria's economy began to slow and political tension ensued	Recently, the trend has been for Nigerians to remain in the UK and become established professionals. After a period of residence, some Nigerians become eligible for British citizenship, and often their offspring are British citizens by birth.
Source: Elam (2000), World Bank interviews, DFID (2005) as quoted by Hernandez-Coss and Bun (2007)		

Remittance and Financial Development: Some Stylized Facts

Remittances, in terms of average growth rate, as a ratio of real GDP and measured per migrant to the developing world, have shown remarkable improvements especially in the past decade.

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In 2022, remittance inflows grew by 0.7% in East Asia and the Pacific, 19% in Europe and Central Asia, 11.3% in Latin America and the Caribbean, 12.2% in South Asia, and 6.1% in Sub-Saharan Africa. Remittance inflows declined by 3.8% for the Middle East and North Africa region.

In 2023, worldwide remittance flows to developing countries was put at about 656 billion US dollars with about $53 billion being remitted to Africa. The annual average remittance to Africa per migrant for that year was put at about US$1,200 and a country-by-country average of 5 per cent of GDP and 27 per cent of exports (World Bank, 2023). In the literature, there is a bi-directional relationship between remittances and financial sector development in most of the developing world. While functional and developed financial sector is characterized by low transaction costs and efficient allocation of resources which could be an incentive for remittance funds to be channeled to high yielding investments outlets, remittances could also serve as compensation during adverse economic conditions as it cushions recipients against its effects and loosens credit constraints in underdeveloped financial markets.

The World Economic Outlook (2020) buttresses this point when it posits that remittances could give rise to remittance-driven economic activity especially during periods of disaster and general economic downturn. During such periods, remittances tend to cushion the effect of such phenomena on relatives left at home and if such funds are channeled through the financial system, they could stimulate economic activity. Reena (2006) in a study on the impact of remittances through increasing aggregate level of deposits or the amount of credit to the private sector on the development of the financial sector in developing countries found that remittances actually contribute to financial sector development.

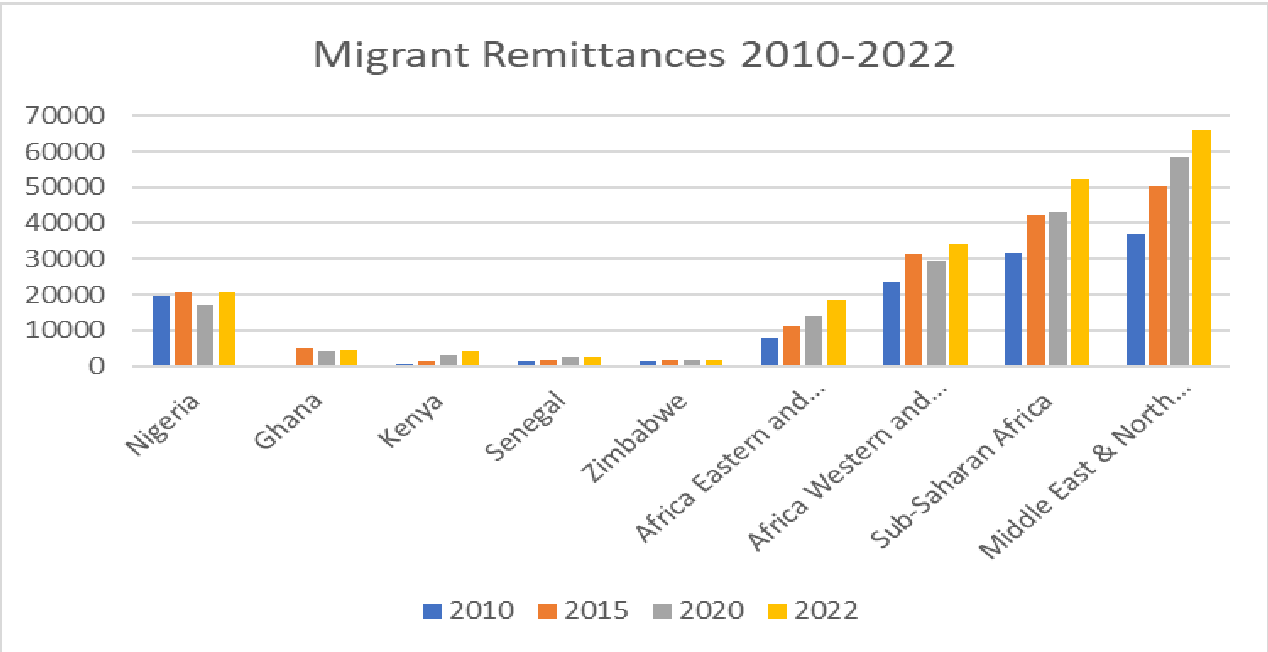

FIG. 1: Migrant Remittances to Selected Countries/Regions of the World (2010-2022)

Nigeria receives more than 50 per cent of the total remittances to sub-Saharan Africa and ranks sixth on the table of top remittance recipients in all developing countries in 2022 with receipts in excess of twenty billion dollars. The data on remittance flows to Nigeria in the past years have been varied just as the sources are different even though such releases have been within

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the same range. This has been largely due to the inability to put appropriate mechanisms to capture informal remittances. This setback is however being overcome with improved reporting from banking sources and increasing remittances through official channels.

In 2020, workers remittance to Nigeria was over 17 billion US dollars, which accounts for about 2.8% of the nation's GDP (World Bank, 2022). This figure is speculated to have risen to about 24 billion US dollars and about 4.7 percent of GDP in 2023 (World Bank, 2023). In a survey by Orozco in 2007, the four major sources of remittances to Nigeria were identified as the United States, United Kingdom, Italy and Western European countries.

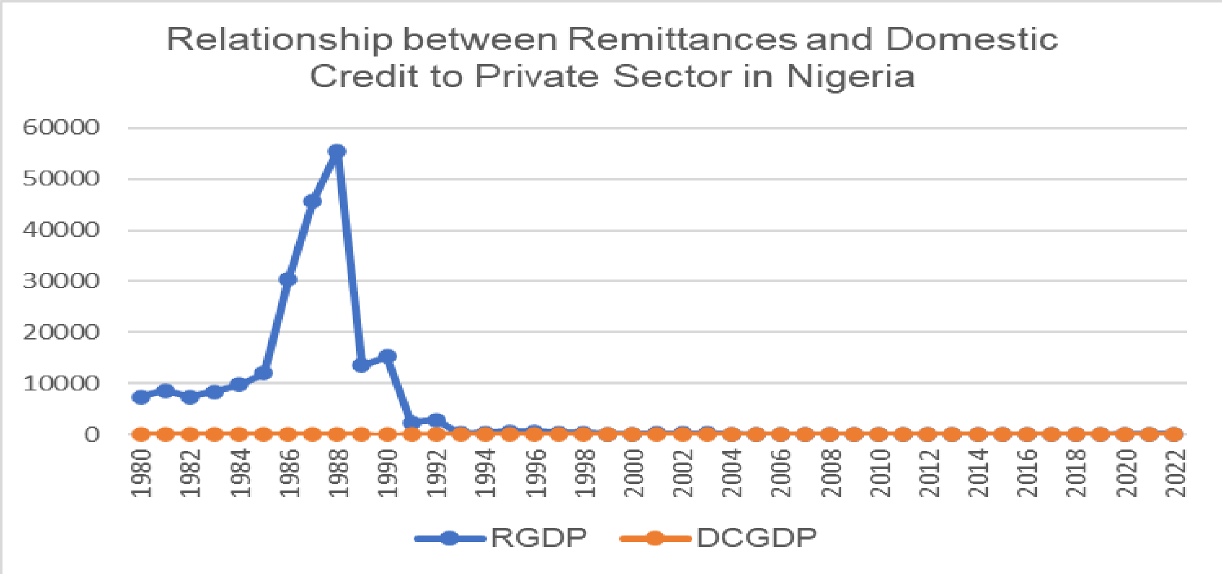

FIG. 2: Relationship between Remittances and Domestic Credit to Private Sector in Nigeria

Data from the World Bank shows a significant increase amounting to about 72 percentage points increase in remittances to Nigeria between 1990 and 2000. This leaped by 1418 percentage points between 2000 and 2010 and witnessed a 106 percentage points increase between 2010 and 2020. No doubt, migrant remittances into the country have been massive notwithstanding economic downturns and disruptions in global value chains amid the pandemic.

Estimation Methodology and Result

Economic theory generally believes that the lack of access to banks and other forms of credit impedes capital formation which results in low productivity and thus slow growth process. An injection of funds (whether domestically or from foreign sources) to ease credit constraints could be the catalyst required to kick start the development process. Developing countries typically suffer from weakly developed financial markets and low degree of monetization of the economy measured as a low ratio of credit to Gross Domestic Product (GDP) and a low ratio of monetary aggregates M2 or M3 to GDP. In broad and general terms, proxies for financial sector development are classified into two groups thus: those relating to the banking sector and those relating to the stock market (Guiliano & Ruiz-Arranz, 2005). We shall use a proxy relating to the banking sector because in Nigeria, as is the case in most developing countries, the banking sector is seen as more vibrant, having more players and impacting more

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on the domestic economy than the stock market. We make use of the ratio of credit offered by the banking sector to Gross Domestic Product (GDP). The measure used here is credit to private sector and it measures how much intermediation is performed by the banking system.

The model follows the work by Shahbaz, Qureshi and Amir (2007) and Eke, Okoi and Eke (2023), using a log linear form for credit to the private sector by the banking system as a proxy for financial sector development. The model is specified in its log linear form below:

LFS = a0 + a1LFS(-1) + a2LRM + a3LIF + a4LGNP + a5LEXP…………………… (1)

where

LFS = Log of credit to private sector as share of GDP (proxy for financial sector development)

LRM = Log of remittances as share of GDP

LIF = Consumer price index (proxy for inflation)

LGNP = Log of real GNP per capita

LEXP = Log of export as share of GDP

According to Shahbaz, Qureshi and Amir (2007), the lag of the dependent variable is included in our model because an improvement in the current period can also be enhanced by the policies and development of the financial sector in the previous period. Thus, we include the lag of the log of credit to the private sector in our model to measure the effect which past programmes to improve financial sector development would have on the current period in Nigeria. Our expectation is that financial sector development in the previous period, remittances, real gross national product and export as share of GDP would all have a positive and significant effect on the financial sector development, while inflation is expected to retard financial sector development and thus have a negative impact on that sector's development. With regards to remittances, it is expected that as remittances to a country increases, it stimulates competition in the financial sector which leads to its growth and development.

We shall use the Error correction model developed by Engle and Granger in 1987 and discussed in the Oxford Bulletin of Economics and Statistics special edition on co-integration. The work by Engel and Granger has received wide acceptance in Econometric study because of its ease of implementation, power and robustness as well as its role in explaining causality and stationarity among economic variables (Chandran, 2004). The fact that this method requires pre-testing for unit roots and ensures that variables are stationary before estimating their long-run relationships makes ECM a veritable tool for robust econometric analysis. The method follows the procedure outlined below:

1. Test whether the time series are integrated at the various orders of zero, one, or two.

This is done using the Augmented Dickey-Fuller test (ADFt).

2. Estimate the long-run relationships, i.e., run the regression of the equations in the model.

3. If there is co-integration in relation to the equations, estimate the error-correction model (ECM) proceeding to the parsimonious models.

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Result of Unit Root Test

Table 3: Unit Root Test at Level

Variable	Level ADF statistic	1% critical value	5% critical value	Lag
LFS	4.3577	-3.622	-2.9442	1
LRM	-3.0158	-3.6171	-2.9422	0
LIF	-3.0075	-3.6171	-2.9446	0
LGNP	-1.8837	-3.6228	-2.9446	1
LEXP	-0.1996	-3.6228	-2.9446	1

Source: Author's Computation (2023)

Table 4: Unit Root Test at First Difference

Variable	1st difference test statistic	1% critical Value	5% critical value	Lag
LFS	-4.9196	-3.6289	-2.9472	1
LRM	-4.2176	-3.6289	-2.9472	1
LIF	-5.8239	-3.6289	-2.9472	1
LGNP	-5.1048	-3.6228	-2.9446	1
LEXP	-4.2977	-3.6289	-2.9472	1

We made use of the standard Augmented Dickey Fuller unit root test with data for 37 years to investigate the order of integration of the variables of interest in our model. The results as shown in the two tables above reveal that credit to private sector, remittances and consumer price index are stationary at level while real GNP per capita and exports were found to be non-stationary at level. However, at first difference, all the variables were found to be stationary (Table 6). Given that all the variables are stationary at first differencing, we proceed to conduct the Johansen co-integration test to find out the long-run relationship between the variables.

Table 5: Johansen Co-integration Test

Hypotheses	Likelihood ratio	5 percent critical value	1 percent critical value
R = 0	103.31	68.52	76.07
R ≤ 1	54.29	47.21	50.46
R ≤ 2	25.28	20.68	35.65
R ≤ 3	9.17	15.41	20.04
R ≤ 4	3.63	3.76	6.65

Source: Author's Computation (2023)

Having established the order of integration of the individual variables, we now use the Johansen co-integration test to investigate the long run-relationships among the variables of interest. Here, we examine the null hypothesis of no co-integration (R=0) against the alternative of co-integration (R=1) in our model. In Table 7 above, the trace-test statistic of 103.3 is greater than the 5% and 1% critical values of 68.52 and 76.01 respectively; hence, we reject the null hypothesis that R=0 in favour of the alternative hypothesis that R=1. Evidence from the table

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also shows that the null hypothesis of R≤1 can be rejected at 5% and 1% level of significance since 54.29 is greater than 47.21 and 50.46, while R≤2 can be rejected at 5 percent level of significance since 25.28 is greater than 20.68. From the foregoing, therefore, we can conclude that there are at least three integrating vectors among LFS, LRM, LIF, LGNP, and LEXP. This therefore confirms the existence of a long-run relationship between the variables in the specified model.

Table 6: Result of Parsimonious Model

Variable	Coefficient	Standard error	t-statistic	Probability
C	0.044	0.069	-0.638	0.568
LFS(-1)	0.848	0.098	6.367	0.001
LEXP	0.121	0.015	0.875	0.045
LGNP	0.707	0.023	-2.694	0.000
LGNP(-1)	0.768	0.022	1.136	0.521
LIF	-0.064	0.099	-6.502	0.002
LRM	1.102	0.010	11.040	0.000
LRM(-1))	0.835	0.094	-0.810	0.011
ECM(-1)	-0.038	0.026	7.39	0.002
R-Squared = 0.709 Adjusted R-squared= 0.692		F- statistic = 130.96 Durbin-Watson statistic = 1.75		
Dependent variable: LFS				

Source: Author's Computation (2023)

We can deduce from the result above that both the current year and one year lag of remittances in Nigeria promote financial sector development with the present year remittances being statistically significant. Our result shows that an increase in workers' remittances to Nigeria will positively impact on financial sector development. The co-efficient of LRM, which is 1.102, indicates that a 10% increase in workers' remittances to Nigeria will result in 0.11% improvement in the financial sectors performance of its core functions and hence development of the sector. This means that the injection of remittances into the domestic economy could serve to catalyse activities in that sector and possibly lead to its overall development. There is also evidence that an increase in gross national product per capita and increased efficiency in the financial sector in the previous period have a positive and significant effect on the financial sector development, while previous years' remittances and gross national product per capita, as well as exports have a positive effect on financial sector development with no proof of significance. As expected, inflation has a significantly negative effect on financial sector development as it is detrimental to the value of money and the financial intermediation processes. The error correction term, which measures the speed of adjustment of the behavior of the variables to return to equilibrium, is negative and statistically significant. This shows that our variables of interest can actually interact to attain long run equilibrium.

CONCLUSION AND POLICY IMPLICATIONS

In this study, we put to use the error correction mechanism to investigate any long-run relationship between remittances and other related variables and financial sector development in Nigeria proceeding from the testing for stationarity of variables, co-integration and the long-

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run association of these variables. We found out that remittances actually contribute to financial sector development while previous policies and programmes to improve the performance of the financial sector also have a positive influence on the current performance of the sector. The gross domestic product per capita also improves the efficiency of the financial sector while inflation has a deterrent effect on the sector. The positive effect of remittances on the financial sector is proof that sending remittance funds through official banking channels could even further strengthen the sector. It is reported that over half of Nigeria's remittances from migrant workers abroad are sent through unofficial channels. Many reasons have been adduced as being responsible for this, among which are: high cost of sending remittances (with funds most times being charged at both the sending and receiving ends), underdeveloped financial system, lack of rural banking system, few remittance paying outlets, etc. Deliberate policies to address these remittance retarding indices could further encourage the sending of remittances through official channels which could even contribute more to financial sector development and the economy at large given the development impact on remittances on poverty reduction and economic growth.

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