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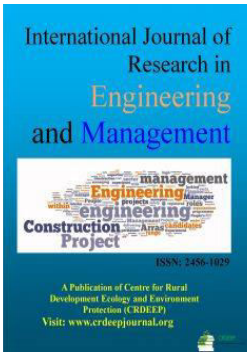

Full Length Research Paper

Evaluation of Indian Mutual Fund Industry Performance during Pandemic COVID-19

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ABSTRACT

The pandemic COVID-19 has affected the global economy so much so that almost every country is facing negative GDP growth for more than 6 quarters. The world trade has declined by more than 8% in 2019-2020 and is recovering slowly. It's true that COVID-19 is mainly a medical incident but its infection rate and mortality rate effected not only mental and physical wealth of the individuals but forced closeness of all industries, services, schools and other social political institutions which impacted production and trade with decline in GDP. Individuals, institutions and government had to find out new ways to survive. Rising unemployment and loss in production forced individuals to curtail consumption and decrease their savings in financial and physical forms. As expected bank deposits and deposit/ investment in other financial instruments fell rapidly. These withdrawals led a great fall in Sensex of India as well from a high of 42,000 to 28,000 in three months from March 2020 to June 2020. All other markets also fell world over. The returns of mutual funds became negative. Then in India came a second and more dangerous wave which not only delayed recovery but accentuated the fall in GDP and employment. But during this period that is after June 2020 mutual fund market has been rising sharply in terms of returns, folios, funds. This rise against all odds needs a reasoned explanation. This research paper concludes clearly that Covid did not affect the mutual fund industry in terms of total funds invested rather on the opposite, Indian mutual fund was positively affected by Covid. It also confirms that the mutual fund industry depends mainly on domestic investment and mutual fund industry in India is certain to remain buoyant.

Introduction

The spectacular growth of mutual funds industry in the backdrop of a slowing Indian economy more particularly in pandemic has stunned all economic experts and analysts. One must remember that commodity market, equity market, debt market as well as mutual fund industry's growth depends upon factors following (1) gross domestic product and gross domestic savings (2) investors confidence in market (3) and performance of manufacturing, service and industrial sector. While growth of GDP and GDS depends upon overall economic activity of an economy but also depends on performance of manufacturing, service and industry. In Indian economy these sectors are responsible for nearly 50% or more and hence very important for overall growth. Most likely all the three above mentioned variables go together i.e. if economy is doing well industry, manufacture, agriculture and services are performing well.

GDP is likely to grow faster and GDS/ may also rise leading to more investable funds which in turn leads secondary market of equity, debt and mutual funds market and vice versa is true. But it is also true that even if an economy does well yet the equity, debt and mutual funds may not be do well due to lack of confidence of investors. Sometimes external events also affect the equity and financial markets. In India there was a period when Indian economy was doing exceedingly well in all economic aspects of growth, output, employment between 2000- 2010.

Indian economy was growing at the rate of more than 7% per annum. GDS was rising at rapid rate but the sub-prime crisis of USA affected the financial markets and equity markets so much so that most mutual fund industries posted negative returns in the period 2008-2010. Similarly in 2015-16 mutual fund industry and Indian sensex returns were almost negligible in most cases.

Since 2017 Indian economy began to slow down because of some policy changes by the government like demonetisation and implementation of GST which affected MSME, service sector and manufacturing (accounting for more than 70% of GDP) due to which economy's growth rate came down from a high of 7% to around 5% by 2019. Gross domestic savings also came down from around 32% to 30%. Since 2019 pandemic Covid closed the whole world. India was subject to long term complete closure of 42 days to 56 days and then part time closure where the economy was completely shut down. The GDP growth of the year was negative by more than -7%. GDS came down by 2%, individuals began to close their FD, RDs and SIP of mutual funds. The Sensex went down by 29% in 100 days (Feb 1 to April 30, 2020) from around 40,000 to 28,600. Nifty and all commodity markets slipped in red. It was expected that mutual fund industry would feel the heat. The total funds with all companies, the total folios and even some schemes would be closed. It is true that in the beginning i. e. April 2020 to June 20 the NAV of most funds did go down. Investment in equity funds went down rapidly (in debt funds there was little growth even in this period).

But to great astonishment of industry business experts and even planners all the losses were wiped out with in two months (May June 2020). All financial markets, equity markets, debt markets and mutual fund industry new heights are being achieved on regular basis. Metal markets touched new heights. Sensex crossed 50,000 mark above by 170% from 29800 within six months. AUM under mutual fund companies rose by 70%, Folio increased by 20%, new IPOs are being floated on a regular basis (Table1,2,3). All this is happening when lockdown are still being imposed for different periods in different states. Economy in first quarter of financial year 2021 has again shown a negative growth. Unemployment is all-time high. In present research paper the researcher is trying to study and analyse this paradox i.e. slow growth of economy and rapid growth of mutual funds.

Research Question

The research question or the problem to be discussed in this paper is what are the main reasons of growth of mutual fund industry in the period of global slowdown due to pandemic COVID-19.

Objectives

(i) To study and analyse the growth of mutual fund industry in India since 2018.
(ii) To analyse and explain the reasons of growth of mutual fund industry of India.
(iii) To compare growth of mutual fund industry the pre-and post-pandemic period.
(iv) To analyse the types of investors in mutual fund industry.

Hypotheses

(1) H0 : There is no significant difference in the growth of Mutual Fund Industry in India in Pre and Post Covid 19 .
H1: There is significant difference in the growth of Mutual Fund Industry in India in Pre and Post Covid 19 .

(2) H0: The growth of mutual fund industry is not significantly related to FII.
H1: The growth of mutual fund industry is significantly related to FII.

(3) H0: The growth of mutual fund industry is correlated with share of Corporate, Banks, HNW, Retails in Mutual Funds.
H1: The growth of mutual fund industry is not correlated with share of Corporate, Banks, HNW, Retails in Mutual Funds.

Before analysing the hypotheses the researcher conducted Augmented Dicky Fuller Test to check whether the series is Stationary or not because if the series is not stationary the forecasting would be meaning less.

Table 1: AUM of Mutual Fund in India Period
AUM (Cr.)

Aug-18	2520430	Jul-19	2453626				
Sep-18	2204423	Aug-19	2547593				
Oct-18	2223560	Sep-19	2560422				
Nov-18	2403134	Oct-19	2632824				
Dec-18	2285912	Nov-19	2704699			Nov-20	3000904
Jan-19	2337118	Dec-19	2725931			Dec-20	3102475
Feb-19	2316403	Jan-20	2785803	Jun-20	2606945	Jan-21	3184329
Mar-19	2379584	Feb-20	2722937	Jul-20	2711894	Feb-21	3229580
Apr-19	2478756	Mar-20	2470882	Aug-20	2749388	Mar-21	3217194
May-19	2593559	Apr-20	2393485	Sep-20	2774146	Apr-21	3242537
Jun-19	2425040	May-20	2454757	Oct-20	2822940	May-21	3299502

Source: AMFI

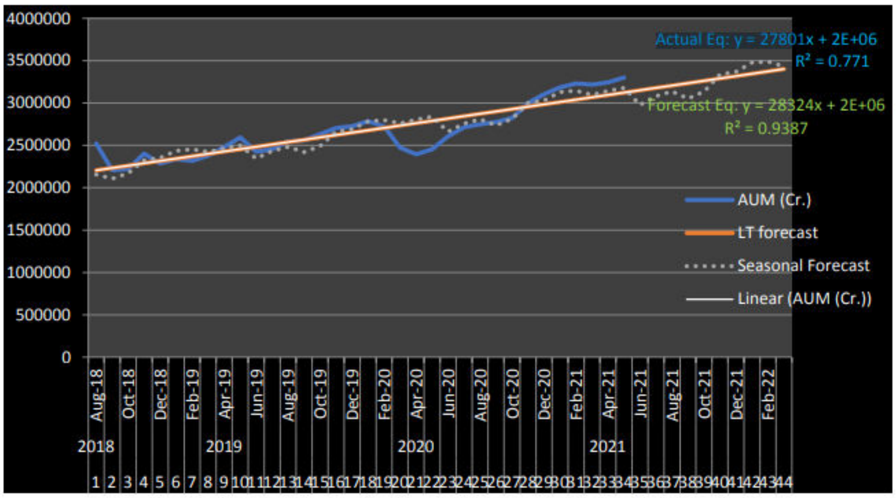
Augmented Dickey-Fuller Test
data: diff(`AUM (Cr.)`)

Dickey-Fuller = -3.6306, Lag order = 3, p-value = 0.04564

Augmented Dickey-Fuller Test clearly demonstrates that series is Stationary.

Table 2: Forecasted AUM of Mutual Fund Industry

T	Year	Period	AUM (Cr.)	LT forecast	Seasonal Forecast	*Month*	*Seas Indx*
1	**2018**	Aug-18	2520430	2204892	2157041.757	*Aug*	*0.978298*
2		Sep-18	2204423	2232693	2106446.949	*Sep*	*0.943456*
3		Oct-18	2223560	2260494	2172374.243	*Oct*	*0.961017*
4		Nov-18	2403134	2288295	2322060.474	*Nov*	*1.014756*
5		Dec-18	2285912	2316096	2351889.344	*Dec*	*1.015454*
6		Jan-19	2337118	2343897	2436711.496	*Jan*	*1.039598*
7		Feb-19	2316403	2371698	2454236.951	*Feb*	*1.034801*
8		Mar-19	2379584	2399499	2422570.797	*Mar*	*1.009615*
9	**2019**	Apr-19	2478756	2427300	2464951.737	*Apr*	*1.015512*
10		May-19	2593559	2455101	2499041.533	*May*	*1.017897*
11		Jun-19	2425040	2482902	2345300.546	*Jun*	*0.94458*
12		Jul-19	2453626	2510704	2434495.529	*Jul*	*0.969647*
13		Aug-19	2547593	2538505	2483414.055		
14		Sep-19	2560422	2566306	2421195.375	***Intercept***	***2177091***
15		Oct-19	2632824	2594107	2492981.49	***Slope***	***27801.03***
16		Nov-19	2704699	2621908	2660595.46		
17		Dec-19	2725931	2649709	2690657.334		
18		Jan-20	2785803	2677510	2783534.283		
19		Feb-20	2722937	2705311	2799459.483		
20		Mar-20	2470882	2733112	2759390.843		
21	**2020**	Apr-20	2393485	2760913	2803738.932		
22		May-20	2454757	2788714	2838624.68		
23		Jun-20	2606945	2816515	2660424.154		
24		Jul-20	2711894	2844316	2757981.648		
25		Aug-20	2749388	2872117	2809786.353		
26		Sep-20	2774146	2899918	2735943.802		
27		Oct-20	2822940	2927719	2813588.737		
28		Nov-20	3000904	2955520	2999130.446		
29		Dec-20	3102475	2983321	3029425.324		
30		Jan-21	3184329	3011122	3130357.07		
31		Feb-21	3229580	3038923	3144682.015		
32		Mar-21	3217194	3066724	3096210.889		
33	**2021**	Apr-21	3242537	3094525	3142526.126		
34		May-21	3299502	3122326	3178207.827		
35		*Jun-21*		*3150127*	*2975547.762*		
36		*Jul-21*		*3177928*	*3081467.767*		
37		*Aug-21*		*3205729*	*3136158.65*		
38		*Sep-21*		*3233530*	*3050692.229*		
39		*Oct-21*		*3261331*	*3134195.984*		
40		*Nov-21*		*3289132*	*3337665.433*		
41		*Dec-21*		*3316933*	*3368193.313*		
42		*Jan-22*		*3344734*	*3477179.857*		
43		*Feb-22*		*3372535*	*3489904.547*		
44		*Mar-22*		*3400336*	*3433030.935*		



Graph 1: Trend of Mutual funds in India

Testing of Hypothesis

Hypothesis 1

Table 3 : AUM of Mutual Funds before and after Pandemic

Before Pandemic		After Pandemic	
Period	**AUM (Cr.)**	**Period**	**AUM (Cr.)**
Aug-18	2520430	Jan-20	2785803
Sep-18	2204423	Feb-20	2722937
Oct-18	2223560	Mar-20	2470882
Nov-18	2403134	Apr-20	2393485
Dec-18	2285912	May-20	2454757
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Oct-19	2632824	Mar-21	3217194
Nov-19	2704699	Apr-21	3242537
Dec-19	2725931	May-21	3299502

Source: AMFI

Group Name	**N**	**Missing**	**Mean**	**Std Dev**	**SEM**
AUM (Cr.)	22	0	2458412.588	157764.536	38263.520
AUM (Cr.)	22	0	2868805.765	301113.211	73030.681

Difference -410393.176

t = -4.978 with 32 degrees of freedom. **(P = <0.001)**

The difference in the mean values of the two groups is greater than would be expected by chance; there is a statistically significant difference between the input groups (P = <0.001).

Hypothesis 2

Table 4: FII (% of Mutual Fund) And AUM (cr.)

Year	FII (% of Mutual Fund)	AUM (Cr.)
Mar 15	1.31	1082757
Mar 16	0.8	1232824
Mar 17	0.7	1754619
Mar 18	0.5	2136036
Mar 19	0.4	2379584

Mar 20	0.2	2470882
Jun 21	0.2	3410403

Summary output

Regression Statistics	
Multiple R	0.885421
R Square	0.783971
Adjusted R Square	0.740765
Standard Error	0.199691
Observations	7

ANOVA

	Df	*SS*	*MS*	*F*	*Significance F*
Regression	1	0.72356	0.72356	18.14503	0.008017
Residual	5	0.199382	0.039876		
Total	6	0.922943			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	1.485151	0.223919	6.632546	0.001174	0.90955	2.060753	0.90955	2.060753
X Variable 1	-4.3E-07	1.02E-07	-4.2597	0.008017	-7E-07	-1.7E-07	-7E-07	-1.7E-07

Since, 0.008 is less than 0.05, Null Hypothesis is rejected.

Hypothesis 3

Table 5: Investor Category Wise share of AUM

Investor category-wise share of AUM

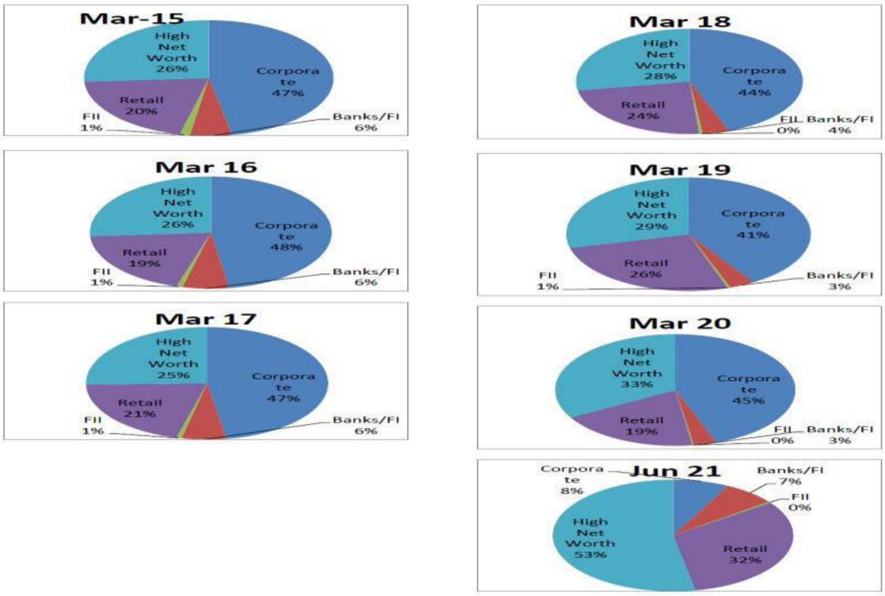
Category (Rs billion)	March 2015	March 2016	March 2017	March 2018	March 2019	March 2020	June 2020	CAGR (March- 2015 to June- 2020)
Corporates	5,673	6,440	8,816	10,051	10,102	10,985	11,745	15%
Banks/FIs	663	843	1,104	866	826	767	1,096	10%
FIIs	159	110	131	125	111	54	53	-19%
Institutional sub-total	**6,495**	**7,393**	**10,051**	**11,042**	**11,039**	**11,806**	**12,894**	**14%**
Retail	2,442	2,627	3,824	5,355	6,446	4,696	4,975	15%
HNIs	3,140	3,531	4,703	6,310	7,095	8,207	8,202	20%
Individual sub-total	**5,582**	**6,158**	**8,527**	**11,665**	**13,541**	**12,903**	**13,177**	**18%**
Total	**12,077**	**13,552**	**18,578**	**22,707**	**24,580**	**24,709**	**26,069**	**16%**

Note: Average monthly AUM for the period
Source: The Association of Mutual Funds in India (AMFI), CRISIL Research

Table 6: Share of Corporate, Bank, Retail and HNW in Mutual Funds

Year	**AUM (Cr.)**	**Corporate**	**Bank**	**Retail**	**HNW**
Mar 15	1082757	46.90%	5.40%	20.20%	25.90%
Mar 16	1232824	47.50%	6.20%	19.30%	26.00%
Mar 17	1754619	47.40%	5.90%	20.50%	25.30%
Mar 18	2136036	44.20%	3.80%	23.50%	27.70%
Mar 19	2379584	41.00%	3.30%	26.20%	28.80%
Mar 20	2470882	44.40%	3.10%	19.00%	33.20%
Jun 21	3410403	45.0%	4.20%	19%	31.40%

Source: AMFI, CRISIL



Graph 2: Graphical Presentation of Category wise Share in Mutual Fund

Descriptive Statistics

	Mean	Std. Deviation	N
AUM (Cr.)	2066729.29%	799217.563%	7
Corporate	45.2000%	2.32164%	7
Bank	4.5571%	1.26604%	7
Retail	21.1000%	2.73861%	7
HNW	28.3286%	3.00761%	7

		AUM (Cr.)	Corporate	Bank	Retail	HNW
	AUM (Cr.)	1.000	-.562	-.681	.051	.796
	Corporate	-.562	1.000	.875	-.753	-.525
	Bank	-.681	.875	1.000	-.430	-.799
Pearson Correlation	Retail	.051	-.753	-.430	1.000	-.154
	HNW	.796	-.525	-.799	-.154	1.000
	AUM (Cr.)	.	.095	.046	.457	.016
	Corporate	.095	.	.005	.025	.113
	Bank	.046	.005	.	.168	.016
	Retail	.457	.025	.168	.	.371
	HNW	.016	.113	.016	.371	.
Sig. (1-tailed)	AUM (Cr.)	7	7	7	7	7
	Corporate	7	7	7	7	7
N	Bank	7	7	7	7	7
	Retail	7	7	7	7	7
	HNW	7	7	7	7	7

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.880[a]	.774	.323	657713.119%

a. Predictors: (Constant), HNW, Retail, Bank, Corporate
b. Dependent Variable: AUM (Cr.)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2967319180168.775	4	741829795042.194	1.715	**.401[b]**
	Residual	865173094698.653	2	432586547349.327		
	Total	3832492274867.429	6			

Null hypothesis is Accepted i.e. Mutual Funds significantly correlated with Variables like Banks, HNW, Retail and corporate.

Results and findings

After establishing the stationary of the series, the next objective was to test the hypothesis which suggest that due to pandemic and long/ short closures of different sector of economy, the GDP growth was highly negative in 2020-21 (-7.3) and the recovery in 2021-22 is not likely to be very sharp. Thus the premises that all kind of saving physical/ financial would become lower and investment would also be low so it is but expected that all financial markets would post negative figures during pandemic. As per data of mutual fund industry since January 2018 and specifically since April 2020 (when there was complete lockdown of more than 42 days) up to May 21 when India faced second wave and closure of some very important industries, hotel, tourism, export, aviation, railways the funds with mutual funds industry have gone up at a very rapid speed from around 23 lakh crores to Rs.32 lakh crores (table 3) around 45%.

Thus, the premise of hypothesis that the growth of mutual fund industry in pre pandemic and during pandemic period would not be the same. Infact it was expected that during pandemic the growth would be negative because all investors would be shying away from investment due to high uncertainty and forced poor performance of industry and manufacture due to lockdown. Thus H0 was that there would be no significant difference in growth of Mutual Fund Industry was supposed to be rejected. It is of course rejected but not in the manner that was expected rather the result was that during pandemic the growth was significantly higher than pre pandemic. For resolving and explaining this paradox next two hypotheses have been under taken. . The researcher has also tried to forecast the growth of the industry on the basis of 2018 data which predicts that Mutual Fund growth is likely to remain buoyant even in 2021-22 even though economic recovery has been sluggish in 2020-21.

The second hypothesis was to be tested on the premises that Indian mutual fund industry's rapid growth is due to FII. As since 2016 Indian economic growth and growth of domestic saving were slowing down and hence it was expected that the flow of funds to mutual fund industry would slow down and if the funds were rising they might due to large FII flows because outside India the returns in various financial markets are much lower.

Therefore despite the weakening of Indian rupees the real gains from India are higher. Moreover Indian financial structure especially of mutual fund industry under strict supervision of SEBI provides a guarantee against frauds and other Moral Hazard in mutual fund industry. The hypothesis was tested but the results do not match with the presumption and null hypothesis is rejected and alternate is selected. (Adjusted R square stands at .74 it means that rejection of null hypothesis is satisfactorily evaluated). It can also be seen clearly from the table 4 that FII never were important investor in Indian mutual fund industry. Their share was negligible even in 2015 at 1.31% and further fell down 0.2% by 2021 while funds with mutual fund industry almost grew by 340%. Hence it can be concluded that mutual fund industry in India does not draw great percentage of funds from foreign institutional investors and therefore the causes of growth of mutual fund industry lie in Indian economic policies and investors' confidence.

Hypothesis 3 is a corollary of hypothesis 2 i.e. if mutual fund is not drawing funds from FII then it must be growing from the funds of high net worth Indians, corporates, banks and retail investors. As in this case four independent variables were selected to determine the dependent variable growth of mutual funds. So a multivariate regression model was used to determine whether the four variables(investors of 4 categories) determining the growth of mutual fund industry or not. Null hypothesis is accepted with high value of R Square and adjusted R Square meaning thereby that in fact Indian mutual fund industry is growing with domestic funds especially from corporate, High net worth Indians and banks in fact the return of mutual fund industry has always been more than others safe alternatives like every FDs, RD, post office deposits, insurance with low to moderate risk in recent years. Moreover with RBI and government reducing deposit rate to reduce the cost of borrowing of government and commercial banks have helped the growth of mutual fund so much so that banks now invest their funds in Mutual funds. High net worth Indians also favour them along with corporates. But unfortunately the retail investors for whom the mutual fund industry was initiated by government of India in 1964 share has been consistent at around 20% for quite long. This hypothesis is also explained clearly from the table and diagram similarly with hypothesis.

Conclusion

The research paper was undertaken to find as to whether mutual fund industry has also been adversely affected by pandemic Covid or not. If not what could be the possible reasons. The statistical data taken from the site of AFMC clearly demonstrates that Covid did not affect the mutual fund industry in terms of total funds invested rather on the opposite, Indian mutual fund was positively affected by Covid. The funds with the industry almost rose by 175% in just two years. It's true that in earlier part of pandemic the funds with mutual fund industry remained a stable (did decline negatively for three months April, May, June 2020) and then started growing rapidly. One also must consider two important facts (1) during March April May 2020 new ventures came to standstill because of lock down. From 12 New venture in February to 6 in March and 1 in April month because of uncertainties. (2) various SIP especially from retail investors were closed due to long lock down reducing investment and employment. But after May 2020 the funds began to flow down in the mutual fund industry. More folios, more schemes and more funds clearly demonstrated that growth of mutual fund industry is there to stay and achieve new heights.

The next question that researcher attempted was to find out the causes i.e. why and who is investing in mutual fund industry in the period of absolute uncertainty while mutual fund industry is an industry where risk are inbuilt. There can only be two main sources of investment that is (1) domestic investment (2) foreign investment. The next two hypotheses clarify the situation that Indian mutual fund industry depends mainly on domestic investment. The foreign investment is almost negligible. It again confirms that mutual fund industry in India is certain to remain buoyant. It would certainly be interesting to see the growth of mutual fund when Indian economy rebounds.

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