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The Impact of Monetary Policy on Household Debt in China

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Abstract

There has been a massive increase in household debt in China, especially in the last five of years. Learning from past experiences, the country needs careful forecasting that may help to form new policies or make amendments to the existing ones. This research paper aims to highlight the impact of the monetary policy on household debt in China. The study covers the time period from 1996 to 2020 The study employs a cointegration test, Autoregressive Distributed Lag Bound Test (ARDL) approach, a Augmented Dicky Fuller (ADF) and PP test (PMG) and time series data. The findings suggest on a quantitative analysis using a time-series model in which gdp per capita and interest rate has a positive impact on household debt whereas, cpi doesn't have significant impact. In a short-term variables relationship, household debt responds more to an increase in income than in the long-term. Also, the impact of interest rate changes on household debt is lower than income in the short run.The research suggests that there should be some restrictions on household debt and consumer financing provided to citizens and for this, appropriate leverage measures should be taken in order for the central bank to sustain robust macroeconomic conditions.

Keywords: Household Debt**,** Monetary Policy, Interest Rate, Household Expenditure

JEL Classification Code: G51, E52, E43, P44

1. Introduction

The increase in Chinese household debt represents an increasing gradual expansion of the financial sector in two stages. The initial one took place in the late 1990s following important financial reforms and Chinese housing privatization. Contrary to this, the second wave started after the global financial crisis, and experienced much faster growth, with debt rise of almost $5.7 trillion and according to some other statistics, almost 30 per cent of Chinese GDP (Zinman, 2015). Indeed, household debt grew by more than 30 per cent to the largest factor of cumulative credit growth in China at the beginning of 2018. New household debts now constitute approximately half of new loan repayments in China.

In China, by June 2018, unpaid mortgage loans represented almost 60 per cent of all household debt ($4 trillion). Mortgages account for approximately 19 per cent of China's bank debt. It is in comparison to 30 per cent in Korea and 23 per cent in Japan. In the previous 3 years, mortgage loan rise has averaged 27 per cent per year, but growth has been decreasing over the past year (Han et al. 2019). It is mainly because the Chinese government have strengthened macroprudential regulation.

The Chinese household debt is largely comparable with its foreign countries, according to its GDP and cumulative household gross income however this reflects a cycle of fast growth, starting originally from low rates. For instance, China's debt-to-GDP ratio currently stands at around 50 per cent as per statistics from the Bank for International Settlements (BIS). This is still very reasonable relative to most advanced markets and above many emerging economies across Asia. China is fast approaching Japan (57 per cent) in Asia, it is Thailand, Malaysia and Hong Kong (almost 70 per cent) that excel in this rate however China is still well below Korea (95 per cent). China's share nevertheless grew by almost 30 per cent in the last decade, which is far higher than that seen in almost any other region, such as Korea, which grew by about 23%.

The massive rise of household debt has contributed to economic stability problems that are bothering the

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citizens in China. China is seeking to stabilize its economy through consumption expenditure. Nevertheless, the rise in disposable incomes is viewed quite less than in household debt and, attributed to rising uncertainties including job security as well as economic prospects, Chinese households are reluctantly to focus on luxuries. The government's decision to decrease the rate of personal tax seems to be effective only in the short term. The leverage in households is usually manageable in China at present. The household debt-to-GDP ratio remains relatively moderate in comparison to other markets in China. This might be one of the reasons that China has a very high savings rate. In 2018, 54 per cent of overall household debt contributed for pending residential mortgages, compared to 50 per cent in 2015, with first-time home purchasers requiring an instalment payment of 30 per cent or more. Consumers can easily leverage online peer-to-peer loan networks and certain short-term consumer loans are used to invest in stocks and assets (Hays, 2018). The government has weakened the accessibility of these loans by resolving online financial discrepancies.

Keeping the above research background in view, this study mainly aims to contribute to the existing literature by investigating the impact of the monetary policy (taking interest rate, inflation and household expenditures into consideration) on the Chinese household debt. This is because a lot of studies have focused either on a comparative approach or analyzed market conditions. However, there is a significant gap in the literature that does not define the impact of these variables after the Chinese economy has been massively hit by the Corona Virus. This is why the present study is important to be studied as it will help the policymakers to understand the impact of these variables on household debt.

The main objectives of this research are as follows:

i. To understand the impact of monetary policy on Chinese household debt.
ii. To find the relationship between inflation, interest rate and household expenditure in the context of household debt in China.
iii. To find the factors that impact the household debt of Chinese in the contemporary market conditions.

There is a gap in the literature that needs to be filled. As most of the studies are either based on the qualitative analysis of the factors that does not elaborate on the impact on household debt in China. Moreover, the rest of the studies may also choose a comparative approach with other countries. There is a need to understand the impact of the internal factors in China such as interest rate, inflation in the country and the overall household expenditure on the household debt.

2. Literature Review

The OECD describes household debt as a commitment or duty to pay interest or principal on loans by the resident family in a particular region. It is a debt or a liability to charge interest or value on credit. There have been identified two key types of household debt, including the secured debt and unsecured debt. A secured one is a debt covered through a basic asset like mortgage debt. Houses, properties or land collateralize mortgage debt. Nevertheless, the unsecured debt denies that a creditor has no precedent on the defaulting borrower's property (Morrison, 2013). The debtor is excluded from a claim by credit card, personal loan or automobile loans.

Household debt is generally known as all household liabilities (including non-profit households) requiring interest payments or principal payments to the creditors on a fixed date in the long term by residents. The debt is measured as an additional number in the following types of liabilities: loans and other accounts payable (mainly mortgages and consumer credit). The metric is calculated as a percentage of net disposable household revenue. On the other hand, the definition of inflation rate by the IMF (International Monetary Fund) is comprehensive. Inflation rate reflects the rate of price rise for a certain duration. Inflation is usually a broad indicator, including the worldwide price rise or the rise in a region's living costs. The household expenditure is the amount of final consumption spent by residents on their daily needs (Lai et al., 2017). It mainly includes food, clothing, renting, electricity, transportation, sustainable goods (particularly automobiles), health costs, recreation and various other services.

An alert against the devastating impact of increasing household debt was issued right after the fiscal crisis of 2008. The impact of high household debt caused politicians to be more careful and to try to figure out the underlying cause of the rise in household debt so as to look out for changes diligently. A massive increase in the household debt to GDP ratio between 1995 and 2018 has been strengthened by more than 40% in Chile, China, Hong Kong, Korea, Malaysia, Singapore and Thailand (Clark & Dawson, 2019). The possibility of growing household debt in developing countries brings a wave of uncertainty.

So many researches try to understand the factors which determine household debt increase. Fisher (1930) presented empirical proof of household debt's major effect on consumption. Fisher claims that the main reason for household debt is having insufficient money for financial expenditure. The Life Cycle Hypothesis (LCH) was proposed by Modigliani and Brumberg (1955) which shows that households can have a desirable or expected level of expenditure over their current revenues during their previous

centuries. The concept of early age saving skills, capital accumulation in middle age and pension-time savings was proposed by Ando and Modigliani (1963).

The household builds up wealth and, in general, owns the investment resource. Therefore, the debt is needed to overcome the financial constraint of consuming an asset. Similar to this, Friedman (1957) suggested a Permanent Income Hypothesis, suggesting that people are motivated to make purchase decisions based on their expected income instead of earnings, particularly if they are small. The deficit at an early age LCH can be compensated by consumer debt to be paid back from potential earnings.

The principles of LCH and PIH then see debt as a method for stable spending and survival of a spending cycle, where it points out that the household is under debt if the income is less than anticipated. The household debt can be understood by expenditure and revenue centred on the LCH and PIH. Such that, debt is a challenging resource for boosting consumption. However, limited research has shown that household debt is a proper feature Some authors have questioned it to be limited. The model was expanded by its own lagging position, property prices, interest rates, inflation rates and job insecurity. Hartropp (1992) believed it had deteriorated its own lagged value to adjust the stock of loans. By incorporating in a life-cycle theory the variable of housing prices, Ortalo-Magne and Rady (1998) expanded the framework. Lacoviello (2008) claimed that the debt of the family is rising because of the ambiguous circumstances that households like to relieve their spending and that this is not due to a large income-expenditure difference.

In the meantime, Tudela and Young (2005) pointed out that the long-term rise in debt compared to income was primarily due to household ownership growth and inflation declined in the late 1990s. Rubaszek and Serwa from the macro panel (2014) reported that the household debt model is affected by the expanding interest rate, rate of unemployment, GDP per capita, and housing prices.

In the meantime, Meniago et al. (2013) carried out studies claiming that GDP, house prices, household consumption, costs and savings, along with inflation, relied negatively on household income and the primary rate. Nevertheless, such variables were observed to the detriment of their long-term co-integration analysis (i.e. hall costs, real prime rates, savings). In comparison, real debt change was negatively influenced by GDP and house price adjustments based on an examination of short-term errors through the error correction model (ECM).

Ho et al. (2016) evaluated 8 developing Asian nations and defined household debt as strongly impacted by income, age, interest rate, unemployment, inflation as well as price. There were different indications of interest rates by region. Kusairi et al. (2019) have analyzed the 1994–2016 Asia Pacific macro panel data with an emphasis on the labour market. They discovered the long-term positive relationship between household consumption, housing price index and labour. The unemployment rate and dependency rate, by comparison, are long-lastingly unfavourable to household debt.

Considered to be a decisive factor in the start of the 2008 financial crisis, several studies seek to clarify the root cause of household debt growth in emerging economies. For certain people, debt is necessary to support their requirements. Including income per capita, jobless rates, consumption, and inflation, economists analyzed the macroeconomic factors triggering household debt shifts. Moreover, progressive household debt is linked to an investment in owning a property. Instead, with the upward rise in house prices, the positive view of the financial prospects has motivated financial institutions to provide further loans.

Santoro et al. (2014) established a dynamic general equilibrium model where households' benefits focus on variations in consumer demand from a set point below which averting loss are presented; therefore, an empirically valid asymmetry is replicated in the production response to monetary policy shocks with different emphasis. Floden et al. (2016) argue that monetary policy has a greater impact on the real business when households are heavily indebted to mortgages at an adjustable rate.

Tenreyro and Thwaites (2016), Angrist et al. (2013) and Cover (1992) have contributed by mentioning that contractionary financial shocks have more intensity than expansionary shocks to output and prices. Barnichon, Matthes and Ziegenbein (2018) established an approximation method for the Gaussian Mixture to predict whether fiscal policies produce asymmetric responses to shock direction and economic conditions. They consider that expansionary monetary policies have a relatively weak impact than contractionary policies on the rate of unemployment. The authors argue that expansionary policy has a significant effect on unemployment and expansionary monetary policy during a high unemployment phase.

Calza et al. (2013) demonstrate that in states with higher debt-to-GDP ratio and a higher rate of flexible mortgages, the transition mechanism of currency shocks to demand is significantly higher. Rubio (2011) provides a model with the market of housing and collateral constrained households by enabling both adjustable and fixed-rate mortgages to broaden the structure in Lacoviello (2005). Fiscal policy has a stronger impact as there are adjustable rates for a greater proportion of mortgages. In particular balance, however, partial balancing effects are diminished by distribution among debtors and savers as well as the response to labour supply.

Garriga et al. (2015) found that monetary policy shocks have a bigger real impact under ARMs (adjustable-rate

mortgages) than FRMs (fixed-rate mortgages), as the rise in interest rates not only decreases demand growth but also raises mortgage payments. Considering the monetary policy regulation, it is classified into monetary quantity regulation and monetary price regulation. Monetary quantity control is generally implemented at the macro level. In the transmission phase price distortion is simple to take place. Microeconomic organizations generally rely on self-regulation when it comes to currency price regulation. Such a regulation includes strong pricing powers for financial institutions and adequate interest-rate sensitivity for micro-subjects.

The strategy of adjusting the market interest rates by total monetary policies cannot effectively adjust the considerable problems. This claim has been made owing to the current state of China's economic growth and development. It is also assumed that the needs of economic structural transformation and the structural monetary policy's directional monetary price adjustments can perhaps be a more effective method than adjusting the market interest rate (Zabai, 2017). The definition of the monetary policy framework gives a new viewpoint on the problem of debt mechanisms: for various economic issues, "the right approach" must be administered from a realistic standpoint.

There are resemblances and variations across Asian and Pacific markets when it comes to the structure and dynamics of household debt. Mortgages were by far the main part of household debt in most economies, ranging from 50% to over 80%. Collateralized lending appears to boost issues of inappropriate preferences and moral risks partially because some governments have encouraged housing ownership (Turdaliev & Zhang, 2019). Mortgage debt has become dominant, with the exception of the Philippines, where mortgages constitute only a third of the household debt.

In short-term, at minimum, household debt rises have been correlated with greater private consumption. This is rational since customers can spend more by collecting a debt. Even so, as previously seen, consumption growth in China over the same time as household debt nearly tripled, was not especially stellar. According to Alter, Feng and Valckx (2018), commercial property has contributed to large amounts of China's debt accumulation. Mortgages represent 19% of Chinese total private-sector debt and 54% of Chinese household debt, whereas consumption is 9% and 26%, respectively.

According to Ma, Roberts and Kelly (2017), central banks have become trendy in the last decade to target inflation rates, they have gone beyond orthodox tradition. The theory was, if inflation fell under targets, or prices rise if inflation increased above the desired level. the Taylor Rule would be used to manage interest rate setting. Even so, it has become increasingly evident since the global financial crisis that rate increases are not being adjusted appropriately. As a matter of fact, the zero-rate policy forced the target rate to a level of zero, and consequently, the central banks could not avoid inflation from dropping below the desirable rate.

Le et al. (2019), using the Autoregressive Distributed Lag (ARDL) model, analyze the impact of FDI and human capital on labor productivity in Vietnam from 1986 to 2014. It was used to define the direction of effect and the degree of effect of FDI and human capital on labor productivity in Vietnam. The empirical findings show that foreign direct investment and human capital have a long-term positive effect on labor productivity in Vietnam.

According to Oxford Analytica (2019), public banks lend and borrow from the central bank and are referred to as interbank loans, as these transactions are on a short term, and are directly influenced by adjustments in the interest rate. If the central bank reduces the rate of interest, the institutions will lend from the central banks and raise the money supply. Interbank long-term rates are guided by potential interest rate assumptions. If central banks reduce their rate of interest, the market assumes that it will stay low, and hence long-term market rates will be consistent with interest rate expectations. Furthermore, financial liberalization, especially low-interest rates, led to the dramatic rising household debt.

Sharma et al. (2020) look into the effect of increased tourism on human development in the Indian economy. In addition, the auto regressive distributed lag (ARDL) method was used to investigate the cointegrating relationship between the model's variables. As a result, economic growth and tourism have a positive effect on human development in India, while trade openness has a negative impact.

Qamruzzaman et al. (2021) examine the relationship between foreign direct investment (FDI), financial innovation, and exchange rate volatility in a number of South Asian countries. The unit root measure, Autoregressive Distributed Lagged, nonlinear ARDL, is used in this analysis. As a result, it was discovered that financial innovation, FDI inflows, and exchange rate volatility are all related in the long run.

Currently, during the Covid-19, The most affected sector in China is the one proving low-wages to the workers. This raises the likelihood of consumer credit defaults since the previous shutdowns have affected borrowers with less-income credit. Thus, the macroeconomic effect of the distribution of household debt on low-income debtors can lead to more risk, even though the overall household debt burden seems manageable. The short-term credit card debt is especially vulnerable to this possible hit on household income. At the end of 2019, China's debt from credit cards already stood at $7.59 trillion yuan in comparison to the $927 billion last year in the United States (Clark & Dawson, 2019). Nevertheless, this reflects that all previous studies have shown that household debt growth is linked with

rising house prices and a low-interest rate. However, few studies have empirically investigated the role of interest rate, household expenditure and inflation.

3. Data, Model and Methodology

3.1. Data

Time series data is utilized for this research from secondary sources. The time series data for China have been collected covering the period from 1996 to 2020. The selection of time period covering data entirely depends on the data availability. The data for dependent variable i.e. household debt in China is obtained from National Bureau of Statistic of China and data for independent variable i.e. interest rate is obtained from WDI (World Development Indicators). There are two control variables in the model and data for those variables is also collected from WDI; these control variables are inflation and household consumption. This research tests a regression equations. Following table represents the description of variables used in this research (Table 1).

3.2. Model Specification

This research report uses secondary time series data and aims to highlight the impact of monetary policy on household debt between 1990 and 2015 for China.

ARDL approach used to analyse the data which is given in equation 1.

$$Y_t = \alpha_1 t + \sum_{i=1}^{p} \xi_i \Delta Y_{t-i} + \sum_{j=1}^{k} \sum_{l_j=0}^{qj} \beta_j, l_j \, X_{j,t-l_j} + e_t \quad (1)$$

Which Y_t denotes HD $X_{j,t}$ and denotes dependent variables as mentioned above in Table 1.

The model is estimated on Eviews software and the results are presented in the next section. To minimize dispersion, multicollinearity, and heteroscedasticity in the series, all variables are converted to natural logarithms, and the log-linear regression produces consistent results.

Table 1: Variables Used in the Study

Variable	Denoted by	Description
Household Debt	HD	Household Debt (% of GDP)
Interest Rate	R	Real interest rate (%)
GDP per Capita	PERCAP	GDP per Capita (USD)
Inflation	CPI	Inflation, consumer prices (annual %)

4. Results and Findings

In its analysis, this study uses the Autoregressive Distributed Lag (ARDL) approach to cointegration. It was chosen over the Johansen and Juselius (1990) and conventional Johansen (1988) cointegration tests because of its advantages: because it does not formally require unit root pretesting, both short and long run coefficients can be obtained at the same time. Variables can be used to measure cointegration regardless of their stationarity level I(0), first difference I(1), or a combination of both (I(0) and I(1)). It is preferable to use the ARDL method with a limited sample size of 30 to 80 observations (Narayan & Narayan, 2005).

One of the benefits of the ARDL cointegration test method is that it does not require a stationary test, but it does require that the variables in the sequence be stationary at I(0), I(1), or both. This is due to the fact that stationarity at I(2) and beyond violates the Pesaran, Shin and Smith (2001) bonds test's properties. As a result, we use Augmented Dickey Fuller (ADF) and Phillips Perron (PP) to test for the order of integration of the sequence.

The study examines the linkage among the variables using various econometric tools Augmented Dicky Fuller and PP test is applied on all variables to check the stationarity of variables and results are shared in Table 2.

Results in the above table from ADF and PP test indicates that all of the operationalized variables are stationary at level or at first difference. Thus, pre-requirements for ARDL are fulfilled. The optimum lag length is selected by using Akaike information criteria (Figure 1).

When the test results were examined, the absence hypothesis, which states that there is no heteroscedasticty, could not be rejected since the tail probability calculated for the Breusch-Pagan-Godfrey variance test was greater than 0.05. The BG-LM autocorrelation, the Breusch-Pagan-Godfrey (BGP), the Jarque Berra test, and the BPG test were all added to the approximate ARDL models. Autocorrelation and heteroscedasticity were not observed in the results of the experiments. The error terms were found to be normally distributed using the Jarque-Bera test. The Ramsey-Reset test statistics showed that the model was functionally accurate. Briefly, the absence hypothesis, which states that the residues are normally distributed, could not be rejected because the tail probability of the Jarque-Bera test is greater than 0.05. Other the absence hypothesis, which states that there is no identification error in the model, could not be rejected because the tail probability of the Ramsey Reset test was greater than 0.05 (Table 3).

Table 2: Unit Root Tests

	With Constant			With Constant & Trend			Without Constant & Trend		
	t-Statistic	Prob.		*t*-Statistic	Prob.		*t*-Statistic	Prob.	
UNIT ROOT TEST TABLE (PP)									
At Level									
HD	3.1398	1	n0	−1.8306	0.6566	n0	5.6781	1	n0
CPI	−4.4527	0.002	***	−4.7145	0.0053	***	−3.215	0.0026	***
LOGPERCAP	−0.2789	0.914	n0	−1.4221	0.8264	n0	8.5955	1	n0
R	−2.9236	0.058	*	−3.3089	0.0898	*	−1.907	0.0554	*
At First Difference									
d(HD)	−4.3292	0.0029	***	−6.4281	0.0002	***	−2.069	0.0395	**
d(CPI)	−8.1179	0	***	−7.1587	0	***	−8.5383	0	***
d(LOGPERCAP)	−2.2433	0.0097	***	−1.8075	0.007	***	−0.6598	0.03	***
d(R)	−9.4951	0	***	−11.2304	0	***	−9.2835	0	***
UNIT ROOT TEST TABLE (ADF)									
At Level									
HD	2.4739	0.9999	n0	−1.8141	0.6647	n0	5.6781	1	n0
CPI	−1.8935	0.3287	n0	−2.2754	0.4279	n0	−0.9315	0.3017	n0
LOGPERCAP	−1.5076	0.5082	n0	−3.466	0.0709	*	1.3174	0.9465	n0
R	−2.9966	0.0501	*	−3.2805	0.0945	*	−2.0187	0.0438	**
At First Difference									
d(HD)	−4.3337	0.0029	***	−6.2396	0.0002	***	−0.1227	0.629	n0
d(CPI)	−6.6561	0	***	−6.4241	0.0002	***	−6.8749	0	***
d(LOGPERCAP)	−1.7728	0.0078	***	−1.4332	0.0087	***	−0.3934	0.042	***
d(R)	−6.1185	0.0001	***	−6.0525	0.0004	***	−6.1424	0	***

Note: ***, ** Indicate Significance at 1% and 5% Respectively. ADF and PP Stand for Augmented Dickey Fuller Phillips Perron.

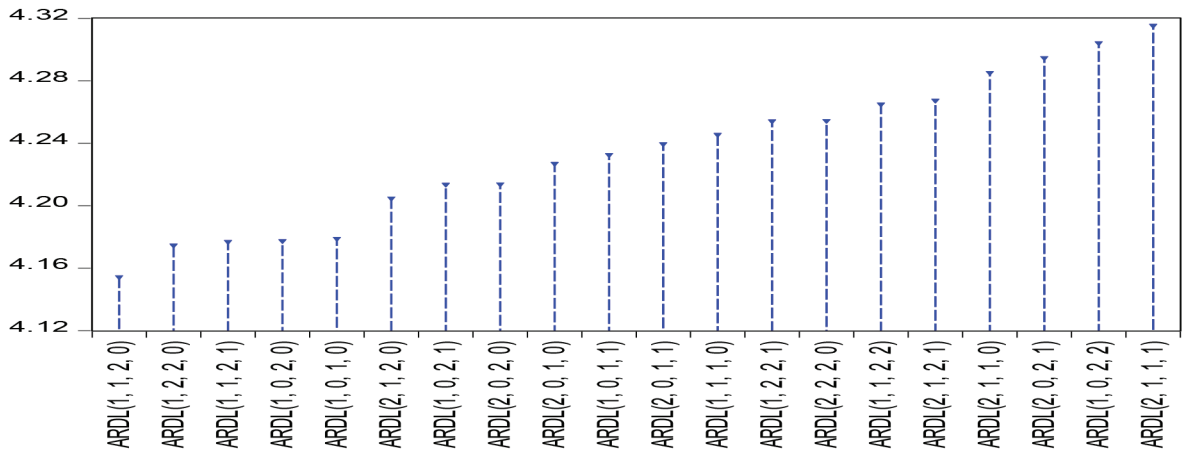

Figure 1: Optimal Lag Selection

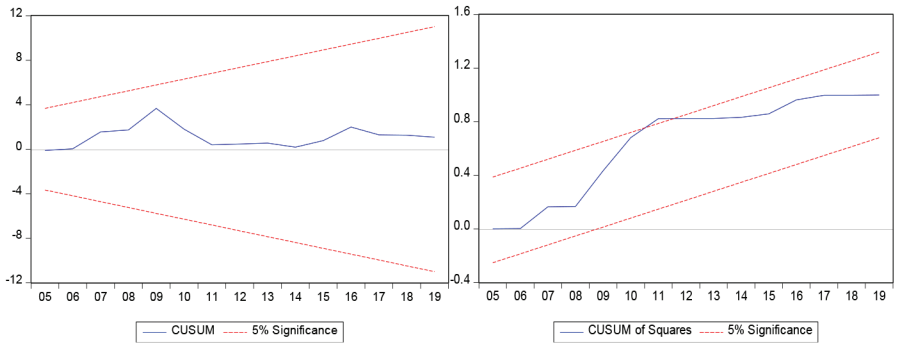

Figure 2: CUSUM Test Graph

A diagnostic test is needed to obtain an ARDL cointegration method for a more accurate outcome. Cusum graph shows that there isn't any structural occurred during this period.The carried out graphically of the stability test of CUSUM and CUSUM square has been conducted and pasted in Figure 2 below indicating a stability test. The graphical result fails not to exceed the critical bounds at 5% level of significance. However there is neglectable fractional exceed of band in 2011 in cusumsq graph. Consequently, this signifies that the ARDL estimates are stable, consistent and reliable.

According to the examination of Engle and Granger (1987) on series data, there might be long-term cointegrations between variables. The technique to examine cointegration in ARDL model introduced by Pesaran et al. (2001) is called the Bound Test. Table 4 showed that *F*-statistic is equal to 4.84 > upper bound is equal to 3.63 at the significance level of 5%. Results of the bound test revealed that there even though *F*-bound test indicates existence of cointegration, validation of such long term relationship couldn't be confirmed by *t*-bound test. Thus, only short term coefficients will be interpreted.

The estimated short run coefficients of the ARDL model and the results of the Bounds Test in Table 4. Since the *F*-statistic of the test is greater than the 1% upper bound critical value, the null hypothesis is rejected. However, when the validity of this cointegration was examined with the *t*-limit test, it was seen that it was not valid. Table 5 shows that Logpercap and interest rate have short-term effects on household dept. While the coefficient of Inflation (CPI) are negative, but not significant on household debt. However, the short-term effects of Logpercap and interest rateon household debt are significant at the 1% level. Moreover, In the current period, 1% increase in Logpercap increases HD by 1.13 units. However, it increases HD by 1.69 in the next period. In other words, HD responds more to the change in income for 1 period of time. This effect disappears after 2 periods. Besides, 1 unit increase in interest rate increases the hd by 0.97. we note that this variables affect positively in way on the household debt at the statistically significant.

Table 3: Model Diagnostics

Test	Prob.
Jarque Berra	0.580
Breusch-Godfrey LM for AC	0.6638
BPG test for Heteroskedasticity	0.0975
Ramsey Reset	0.7422

Table 4: Cointegration Tests

***F*-bound Test**	**Critical Value**	**I(0)**	**I(1)**
F-statistic (*k* = 3)	10%	2.01	3.1
4.84807	5%	2.45	3.63
	2.50%	2.87	4.16
	1%	3.42	4.84
***t*-Bounds Test**	**Critical Value**		**I(1)**
2.661693	10%	−1.62	−3
	5%	−1.95	−3.33
	2.50%	−2.24	−3.64
	1%	−2.58	−3.97

Table 5: Short-Term Coefficients

Variable	Coefficient	Std. Error	*t*-Statistic	Prob.*
HD(−1)	1.189857	0.071329	16.68118	0
CPI	−0.368612	0.441433	−0.835035	0.4168
CPI(−1)	0.745545	0.553959	1.345847	0.1983
LOGPERCAP	113.4992	32.53391	3.488642	0.0033
LOGPERCAP(−1)	169.648	53.87162	3.149116	0.0066
LOGPERCAP(−2)	55.03279	31.79024	1.731122	0.1039
R	0.972873	0.457681	2.125656	0.0506

5. Discussion

It can be reflected from the analysis of the present research that there is an impact of household expenditure, inflation rate and interest rate on the household debt in China. However, the impact of all these variables is different. For China, the household expenditure does impact the household debt but there is a negative impact of inflation and interest rate on household debt.

However, the literature has been mentioning that usually there is a positive impact of the income, age, inflation rate and the interest rate on household debt. If this is viewed, the findings of the analysis are quite challenging for the Chinese government as the conditions now seem to be different. There is a need for new policies that emphasis this impact. The question may arise as that why the impact is so different in contemporary times. The answer to this may be that the Covid-19 has made the impact of interest rate and inflation negative. After the economic recession, the world viewed different impacts of these factors primarily because of the instability in the financial system. However, China now is an advanced country with the different market environment in which household debts are may or may not be impacted by all the factors mentioned in the literature.

Another important factor highlighted in the literature is that fiscal and monetary policies have been impacting household debt. It is still true however, the main focus is still the emerging positive impact of the household expenditures on the household debt in China. In this regard, the point of Dickinson and Jia (2007) may be appropriate to support the findings that people are always in search of making consumption of an asset irrespective of their earnings. In a case, where there is decreased inflation, the household debt will increase because people will tend to borrow more monetary funds to have their luxuries fulfilled.

Contrary to this argument is the fact that household debt is positively impacted by household expenditures. This means that household expenditures trigger the debt of the residents to fulfil their demands form the market or maybe the luxuries. This idea has been supported by Fisher (1930) who mentions that consumers are always attracted towards the low-costing system beneficial strategies that best fit their condition. It is more of a mutual benefit technique and it will not be wrong to say that the present conditions might have favoured the residents to increase their household expenditure and eventually a household debt. Subsequently, the macro and micro level are both impacted by the increase or decrease of these factors.

The argument of Hays (2018) may also suffice in the present analysis that mentions that providing maximum household debt to people is a secret policy of the banks to keep earning with low-interest rates. However, this may eventually create problems in the uncertain times when the government has no other option than to create strict policies and burden the residents with an immediate return of the funds. This may create social and economic unrest which eventually can lead to an unstable economy. In order to avoid these conditions, it is important to strike a healthy balance between inflation rates and interest rates.

The household expenditures may also increase the household debt but the increased inflation will eventually decrease the household debt. If such conditions continue to occur in longer terms, a stage may occur where the borrowers will no more be interested to have debts that are at the expense of their peace.

Similar to the above-mentioned claim, Chang, Liu and Spiegel (2015) has focused that the Chinese government is in search of developing smart techniques that neither shifts the burden on the residents nor on the banks. It is important to understand that even banks are institutions of the state just like every single home in a country that led towards capitalism from a communist ideology. It is, therefore, quite important to not let the borrowers get such debts that may burden them and also the banks when the

conditions are unfavourable. In this regard, there must be ways to reduce the household debt than just to find out the impact of the monetary policies of any country. It is mainly because the variable factors may bring unpredictable results that can create unease for both the state and the banks.

To summarize, this is highlighted that the literature and the analysis of the present research mention the fact that high or rising household debt in China contributes to potential economic development and prosperity in the region. Whereas household debt growth is moderate, the housing adjustments have reduced net household value and reduced economic expansion. In addition, higher household debt in countries such as China, South Korea, Malaysia and Thailand remains a major issue. In those countries household debt is rising faster than disposable revenue, and household expenditure is decreasing. The authorities are concerned to continue to track closely the risks of high household leverage while financial institutions may monitor the efficiency of their loans. It is mainly because none of the factors including the interest rate, inflation rate and household expenditures is stationary in nature, rather they may vary depending on the external and internal conditions of the country.

6. Conclusions and Policy Recommendations

From the above analysis, this can be concluded that there is a negative impact of inflation and interest rate on the household debt in China. Contrary to this, the household expenditure had a positive impact on household debt in China. However, it is not a stationary factor and thus interest rate and inflation may affect positively at some point at the time. There are real struggles that the government has to consider while ensuring the household debt does not impact the economy as a whole. However, in this regard, there are a number of policy recommendations that may benefit the country as a whole.

One of the finest modifications in the Chinese policy can be made at the macro-level. There should be a drop in the inflation rate so that the household debt is no more a burden on the citizens. For this purpose, the citizens may be allowed to have a proper plan for the household debt keeping their income and bank statement in view. On the other hand, household debt should also be categorized according to the area, such as the urban and rural regions have a significant rate difference.

Another policy should be that with each earning member of the house, the household debt must be divided. It is because this will create a sense of responsibility at the micro-level that every earning member of the house is therefore contributing to pay back that debt (André, 2016). Consequently, this will benefit the country at macro-level that people are more conscious of their spending while managing household debt.

In the times of the Covid-19, where China has been the origin of this virus, the country needs to have some really strict policies for the strengthening of the economy. People are working from home and maintaining household expenditure within the income is less struggle as many of the employees do not have travelling and other related expenses. Keeping this in view, the policy should be that every household debt must be pay backed within a certain ratio that was ideally being used for the above-mentioned expenses (Gulbrandsen & Natvik, 2020). This is to benefit the citizens as well as the country.

Since people tend to have more household debt if the interest rate and inflation are low in the country, the government should create a strategy that does benefit people of all income. The economy of China has been hit by Covid-19 however, there are efforts to again stabilize them. The government must re-consider the fact that interest rate and inflation are not going to be forever stationary in terms of their level. The change in the interest rate or inflation rate may be a source for forecasting the household debt in China. It is, therefore, recommended that the government must take advantage of these conditions to make estimations.

Furthermore, there must be a check and balance policy for the household expenditures so that the household debt is monitored appropriately. The councils should make appropriate measures to balance the difference and overcome the challenge of household debt for residents. The increasing interest rate and decreasing household expenditures are something that may not happen all of a sudden (Turdaliev & Zhang, 2019). So, the policy to manage the uncertain conditions must include restricting the household debt limit. It is primarily because the government cannot take the risk to only keep providing loans to the residents despite the variable factors impacting the household debt, both positively and negatively.

To summarize the discussion, it will not be wrong to say that the household debt in China is currently impacted by the household expenditures whereas inflation and interest rate negatively impact it. The impact is still there which means increased inflation and interest rate may bring small effect on household expenditures. Contrary to this, the impact on household debt may be extremely large in case household expenditures are increased. There must be some policies to forecast the possible impact of these factors in case the conditions in future are different. It is mainly because all of these factors may vary in future depending on the social, economic conditions of the country.

The present study is just confined to the qualitative analysis of the factors that may impact the household debt. The study only focuses on the interest rate, inflation and household expenditure to analyze the impact on household debt in China. The study is cross-sectional in nature and also does not adopt a comparative approach in which foreign countries are also considered. Future researchers can focus on either a mixed-method research approach or analyze the impact of more factors on household debt. The findings being quantitative cannot be generalized on other studies. Thus, the present research has successfully achieved the research objectives and answered the research questions, however, there is a great potential in a similar field of study for other researchers.

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