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Savings in Gold by Low Income Households

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Summary:

The objective of this research brief is to explore gold as a financial instrument, particularly in the context of low-income households in India. To understand this better we conducted a brief overview of the literature on retail gold sector in India, the participation and allocation of gold by low-income households with and their preference to use the liquid asset as a hedge against inflation. We also explore the various policies and schemes rolled out by the government to formalise and financialise the largely informal sector which has mostly restricted gold to a physical asset, through both public and private sector formal institutions. Although multiple datasets can provide some useful insights about gold transaction patterns, most of them do not exclusively concentrate on low- and middle-income households. In our research, we had access to the administrative dataset of Dvara SmartGold that helped us gain insights into how remote rural customers with varied households characteristics transact into a gold-based micro savings product.

About Household Finance Research Initiative:

Dvara Research's Household Finance Research initiative aims to rigorously understand the financial choices and decisions of low-income or excluded individuals and households, and their relation to achieving households' objectives. It has been our consistent endeavour to study financial inclusion as a gateway to a suite of appropriate financial services eventually enabling well-rounded household balance sheets and consumer financial well-being.

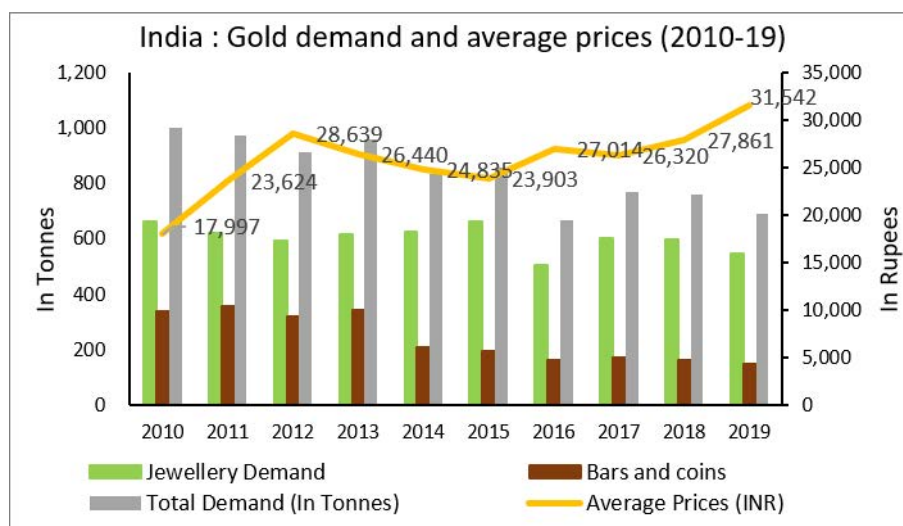
We believe that careful research and a comprehensive body of evidence can powerfully inform market practices and the design of financial sector policy to deliver comprehensive financial services for all individuals, households, and enterprises, and eventually serve to create a safe environment in which formerly excluded populations may fully experience the benefits of financial inclusion. This research initiative seeks to significantly expand the scope of India-specific and policy-focused household finance research that is timely and relevant to current financial sector development.

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1. Introduction

In several parts of south-east Asia, including India, gold is considered to be an essential physical asset that has social, economic and cultural significance. India is the second largest consumer of gold in the world (Graph 1), only behind China. Collectively, Indian households possess 24,000-25,000 tonnes of gold used solely for consumption². Investment in gold as a physical asset in India is motivated by various social, economic, and cultural reasons. As a physical yet liquid asset, gold can be bought in tiny amounts that holds significant value over long periods of time, and is divisible into smaller units which can be liquidated as needed. In India, one in ten households buy gold annually or more frequently, and is usually purchased in the form of jewellery, followed by coins/bars³. Gold as an asset undergoes intergenerational transfer among families through inheritance or during festivals, thus creating socio-cultural and economic significance for the households. This asset is widely used as an instrument to hedge against inflation as the value tends to appreciate over years. Mobilizing savings through accumulation of physical gold bullion, borrowing loans by pledging or collateralizing gold jewellery/coins, and using gold for liquidity management for consumption purpose are various ways in which households use gold as a financial asset.

Graph 1: Gold Demand and Prices in India



Source - World Gold Council, Dvara Research

The objective of this research brief is to explore gold as a financial instrument, particularly in the context of low-income households in India. To understand this better we conducted a brief overview of the literature on retail gold sector in India, the participation and allocation of gold by low-income households with and their preference to use the liquid asset as a hedge against inflation. We also explore the various policies and schemes rolled out by the government to formalise and financialise the largely informal sector which has mostly restricted gold to a physical asset, through both public and private sector formal institutions. Although multiple datasets can provide some useful insights about gold transaction patterns, most of them do not exclusively concentrate on low- and middle-income households. In our research, we had access to the administrative dataset of Dvara SmartGold that helped us gain insights into how remote rural customers with varied households characteristics transact into a gold-based micro savings product.

²Transforming India's Gold Market, Niti Aayog Report, 2018

³Based on ICE 360 survey from People Research on India's Consumer Economy (PRICE) (October 2014).

1.1. Household participation and allocation in gold market

The financial balance sheet of Indian households is dominated by the presence of non-financial assets, with relatively high composition of gold. An average Indian household holds 84 per cent of its wealth in physical asset, 11 per cent in gold bullion and the residual 5 per cent in financial assets⁴. Across the states of India, there is evidence of cross-sectional variation in gold holding as part of the total household balance sheet. Although the variation of gold holding is not extremely stark between rural and urban households, it does vary widely with value of assets held by the households. Households with total wealth (including physical and financial assets) less than ₹1,79,000 hold 24 per cent of their wealth in gold whereas the wealthiest segment of households with total wealth above ₹1.48 million hold only 2 per cent of their total wealth in gold. Some of the cross-variations among households as well as among states can be attributed to household characteristics. For instance, the share of gold in household portfolio reduces as the head of household grows older. Similarly, gold holding increases in households with 0 – 2 children but marginally decreases for households with more than two children (Badarinza et. al, 2016)^{5,6}.

Table 1: Regional variation of household balance sheets in the southern states of India⁷

State	Portfolio allocation across asset categories				Allocation of debt across product types			
	Real Estate	Gold	Financial assets	Retirement accounts	Mortgage debt	Gold loans	Unsecured debt	Non-institutional Debt
Tamil Nadu	59.4%	28.3%	3.1%	3.2%	11.3%	41.3%	11.3%	42.1%
Andhra Pradesh	62.8%	21.6%	3.8%	3.1%	9.5%	9.5%	55.3%	48.9%
Karnataka	67.1%	16.1%	5.0%	4.4%	24.8%	3.4%	53.8%	49.2%
Kerala	78.9%	13.1%	2.8%	1.8%	38.3%	17.2%	31.6%	20.0%

There is significant regional variation in household wealth allocation in each asset type, which also reflects in gold holding. Southern states in India display higher demand for gold compared to other states due to cultural and traditional factors (Table 1). Among the southern states, Tamil Nadu households hold the highest share of gold bullion (28%), followed closely by Andhra Pradesh (22%) and Karnataka (16%). In fact, households in Tamil Nadu hold 40% of their debt in the form of gold loans.

⁴All India Debt and Investment Survey, NSSO (2012)

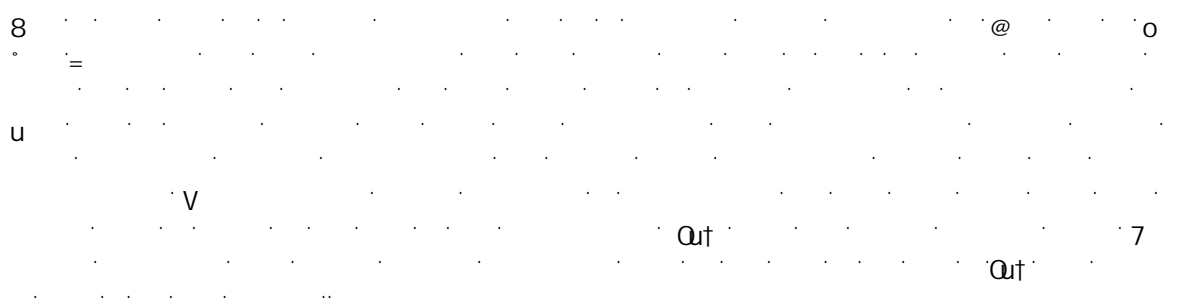
⁵In India gold is often given saved for gifting daughter during marriage

⁶Badarinza, C., Balasubramaniam, V., & Ramadorai, T. (2016). The Indian Household Savings Landscape. Available at SSRN 2797680.

⁷The table is an excerpt from Household Finance Committee report by RBI which is based on NSSO AIDIS (2012) data, during which Telangana was a part of undivided Andhra Pradesh

1.2. Leveraging gold to save and borrow

Among low-income households in India and particularly in the southern states, buying gold, Rotating Savings and Credit Associations (ROSCAs), and private lending remain dominant forms of savings. The average monthly per capita expenditure in India on gold and jewellery is ₹494 in urban households and ₹233 in rural households, and accounts for 23 per cent of households’ durables purchases. The per capita demand for gold is 0.7 grams and for an average Indian family of four persons, the total consumption demand would be 2.8 grams. Although gold is a much sought-after asset, consumers often face hurdles in the process of buying and selling the product. Some of these issues are retailer mark-up in the range of 6-8 per cent of gold value, impure gold particularly in case of jewellery and 22K coins and asymmetry between purchase and resale prices for customers.



As a financial instrument, gold remains to be a preferred form of investment because it serves as a protection against volatility, hedge against inflation due to historically increasing prices. Among Indian households, the ownership of the asset in jewellery form is typical with the woman creating a personal safety for her and her family as well as establishing a sense of ownership, status and dignity within the family and society (Goedecke et. al, 2018).

Most of the gold-based products and policies designed and offered to households by RBI, financial institutions and jewellers require lumpsum and regular contribution with long term lock-in periods (a detailed list of products/policies is discussed in the next section). These products are not entirely suitable for low-income households for multiple reasons like unstable cashflows unsuitable for a standardised product, seasonal need to buy and sell gold during festivals and marriages, and ease of liquidity during periods of shock.

In the basket of financial products available and accessible to low-income households in India, there is scope for product innovation at the intersection of savings and gold investment. In this research brief, we look at a recently launched gold-based microfinance product called Dvara SmartGold¹³. The product is

⁸Goedecke, J., Guérin, I., D'espallier, B., & Venkatasubramanian, G. (2018). Why do financial inclusion policies fail in mobilizing savings from the poor? Lessons from rural South India. *Development Policy Review*, 36, O201-O219.

⁹Survey of Household Expenditure on Services and Durable Goods, NSSO (2014-15)

¹⁰World Gold Council, India Report (2019)

¹¹Retailer mark-up includes local market gold rate, making charges and other costs as charged by the seller.

¹²Based on ICE 360 survey from People Research on India’s Consumer Economy (PRICE) (October 2014).

¹³Dvara SmartGold is a gold-based digital microfinance product which allows customers to purchase and sell digital gold as though it were a savings account. It also allows customers to use the digital gold in their account to be used as a collateral against procuring loans. More details about the product is found in subsequent sections.

designed to tap into the gold-based savings behaviour of households and to mobilise these savings through the formal financial market. The product provides an easy, safe and systematic way for households to save in gold through small-ticket investments and diversify their finance portfolio.

In subsequent sections, we will review existing financial policies, schemes and products pertaining to consumer facing gold market products, and explore various aspects of Dvara SmartGold customers as well their investment behaviour by carrying out a preliminary data analysis of the company's administrative dataset.

2. Review of Existing Policies, Schemes and Products

Over the past few decades, the retail and regulatory environment for gold backed products have changed. Various formal institutions have begun catering to low-income households, with small-ticket gold-based products with quick and convenient processing arrangements. While the organised sector provides various gold-based products such as deposits, loans, coins, bonds and savings, the unorganised sector mainly provides loan and savings products. We review these products in this section, with special focus on loan and savings schemes since these two products are of importance for low income households. We also examine the several factors that make the unorganised sector their preferred choice, by examining the products provided by the unorganised sector and comparing them with those provided by their organised sector counterparts.

The organised sector consists of financial institutions such as public sector banks, private banks, specialised gold loan NBFCs, SFBs, peer-to-peer lending platforms, Nidhi companies¹⁴ and various jewelers, all of them regulated by multiple regulatory authorities. They offer products such as deposits, loans, coins, bonds and savings. There has been a sustained push both by the government and RBI towards introducing products for monetising and financialising the gold held by Indian households. In 2015-16, government introduced the Gold Monetisation Scheme with revamped gold deposit, loan and bond schemes. While the intention of the Scheme was laudable, it has so far met with limited success. NITI Aayog Committee, which was setup to review the scheme, has critically analysed the existing schemes and given its recommendations on what can make gold a viable and robust financial asset.

The following table summarises the existing schemes and some of the issues with them, as reviewed by the Committee:

¹⁴Nidhi Companies are companies registered under the Companies Act and regulated by the Finance Ministry. Their role is to facilitate borrowing and lending of money between their members.

Table 2: Existing gold-based schemes provided by the organised sector in India

V	u	Eligibility criteria	7	k	u O	@
8) o 8) o	V	<ul style="list-style-type: none"> - Individual or jointly owned - Hindu undivided families - Trusts and companies 	<ul style="list-style-type: none"> - Deposit gold held in terms of jewellery, bars or coins (minimum quantity of 30g) - Get back returns in terms of physical gold or INR 	<ul style="list-style-type: none"> - Interest - Security - Tax exemptions 	<ul style="list-style-type: none"> - Short term: 1-3 years - Medium term: 5-7 years - Long term: 12-15 years 	<ul style="list-style-type: none"> - Negligible deposits made relative to total gold holding - Very few banks and branches offering the service - Very high minimum permissible deposit (30g) - Low participation from religious institutions - Complications on gold transport in GST regime
Gold Metal Loan Scheme (GMA)	November 2015	Indian jewellers catering to both domestic consumers and exports	<ul style="list-style-type: none"> - To lend gold procured from GDS to jewellers in order to help them raise capital and fulfil their inventory needs - Low interest rate loan given to jewellers in the form of gold which can be repaid in INR 	-	<ul style="list-style-type: none"> - 180 days for domestic jewellers - 270 days for exports 	<ul style="list-style-type: none"> - Very few banks and branches offering the service - Lack of demand from borrowers - Natural hedge offered by GML to the borrower neutralised by banks' insistence on forward cover - Lack of clarity on account treatment by banks

Indian Gold Coin (IGC)	V	Citizens of India	<ul style="list-style-type: none"> - Gold coins in 5g, 10g and 20g denominations - Anti-counterfeit features and tamper-proof packaging - 24-carat 999 fineness gold 	-	No tenure / lock-in period	<ul style="list-style-type: none"> - Higher cost than other gold coins - Only MMTC repurchases coins - 999 fineness coin makes it costlier for buyers - Available only in 5g, 10g and 20g denominations
Sovereign Gold Bond Scheme (SGB)	V	Residents of India	<ul style="list-style-type: none"> - Buying gold in digital format and trade on exchanges and use as collateral - Minimum holding: 1g; Maximum holding: 4kg - Can be purchased through physical certificate or demat account 	<ul style="list-style-type: none"> - Interest of 2.5% - Exemption from capital gains tax 	8 years, with an option to withdraw after 5 years	<ul style="list-style-type: none"> - Lack of demand for gold bonds - Price higher than market value of gold, making it unattractive to investors - Limited availability of bonds - tranche releases - Government bears the risk entirely
Gold Savings Account (GSA)	Not launched yet	Citizens of India	<ul style="list-style-type: none"> - Deposit in INR to accumulate virtual gold - Can be linked to demat account - Can withdraw either gold or INR - Interest credited in terms of gold weight - Gold can be transferred to another GSA account 	<ul style="list-style-type: none"> - Interest - Exemption from capital gains tax 	No minimum/ maximum tenure	Not implemented yet

While these schemes together form a comprehensive gold asset class, the products which assume importance from the point of view of low-income households however are the loan and savings schemes.

2.1. Gold Loans

The organised sector holds nearly 35 per cent share in the gold-loan market. In recent times, NBFCs have tried to bridge the gap with the unorganised sector by increasing their geographical presence, building quicker loan-processing capabilities, making gold valuation more accurate, accounting more efficient and safekeeping more secure. Other financial institutions like SFBs and Nidhi companies have joined this bandwagon¹⁵. Gold loans are offered for different duration with varying rates of interest¹⁶ and flexible repayment plans. Factors that pose a challenge for the organised sector are gold price volatility, high cost, risk incurred for safekeeping of gold items, and strong competition from the unorganised sector.

The unorganised loan sector consists of all entities operating outside the purview of regulatory authorities. They are easily accessible and offer immediate liquidity at steep rates of interest. The unorganised sector occupies the other 65 per cent share in the gold loan market¹⁷. The reasons why low-income households prefer the unorganised sector are because of some of its intrinsic features: high loan-to-value ratio (LTV), quick turnaround time, requirement of few documents, cash-based transactions, easy accessibility, absence of a maximum loan limit and processing fee, flexible repayment arrangements, freedom to use the borrowed amount for any purpose and the personal rapport with the lenders. These loans are used for consumption-smoothing purposes followed by unexpected expenses like medical emergencies^{18,19}.

The following table summarises the features and characteristics of players in the organised and unorganised gold loan sector:

¹⁵Return of gold financiers in India's organised lending market, KPMG India Report, 2020

¹⁶Gold loan providers charge a high rate of interest to protect against gold price volatility, to hedge against default risks, and to make up for all the costs incurred - transactional costs, administrative costs and gold safeguarding costs. The short duration loans have lower rates of interest than long duration loans, since gold price volatility affects the latter more than the former. Providers also charge higher interest from those who fail to pay interest amount regularly, thus incentivising regularity and penalising irregularity.

¹⁷Return of gold financiers in India's organised lending market, KPMG India Report, 2020

¹⁸Expensive but worthwhile: Resolute informal financier markets, Nikita Taniparti, 2016

¹⁹Study of gold loan market as an alternative source of credit for low income households, Misha Sharma, 2013

Table 3: Features of Gold Loan products offered by various sources of credit

Parameters	Gold Loan NBFCs	SFBs	Banks	Nidhi Companies	Pawn brokers and lenders
LTV ratio	<75%	No information	<75%	<80%	>75%
Processing fee	Nil/minimal	Nil	Nil - small loans Nominal - big loans	Nil	Nil
Interest rate	11-24% PA	11-12% PA	7-15% PA	12-21% PA	25-50% PA
Minimum loan amount	Rs. 1,000/-	Rs. 5,000/-	Rs. 1,000/-	Rs. 1,000/-	No limit
Maximum loan amount	No limit	1 lakh	3 Lakhs for agri loans	< 2 lakhs for companies with < 2 crore deposits	No limit
Penetration	High	High	Low	Low	Very High
Mode of loan disbursal	Cash up to Rs. 20,000/- Account transfer beyond Rs. 20,000/-	Cash Account transfer	Account transfer	Cash Account transfer	Cash
Regulator	RBI	RBI	RBI	Ministry of Corporate Affairs	Unregulated
Turnaround time	5-10 minutes	< 30 minutes	1 hour	-	> 10 minutes - 1 hour
Repayment Plans	Monthly interest, end of tenure lump sum, EMIs	Quarterly, Semi-annual and annual	Monthly interest, end of tenure lump sum	Any time loan closure permitted	Flexible options

2.3. Gold Savings

Many jewellers, both from the organised and the unorganised sector, offer jewellery advance purchase schemes to customers. With features similar to savings schemes, customers have the choice to choose the tenure for which month instalments are required to be invested. Jewellers either contribute the entirety of or give a substantial discount on the last instalment, and the jewellery of equivalent value of the total money accumulated at the end of the tenure (based on the gold rate on the day of completion of tenure) is given to the customers (Dhawan 2019). However, there were several regulatory concerns with these schemes, with most of the jewellers in the unorganised sector running as single or joint proprietorship ventures and hence beyond the ambit of regulatory authorities, leading to a few instances of people being hoodwinked after investing in such schemes (Chakraborty 2019). The government sought to tackle this through the Banning of Unregulated Deposit Schemes Act, banning jewellers from running such purchase advance schemes without prior regulatory approval. Only those jewellers from the organised sector who have acquired regulatory clearances have been allowed to offer such schemes²⁰.

The structural changes brought about by successive governments and tightening of compliance and lending norms have all aided the rapid growth of the organised jewellery sector, helping it increase its share from a meagre 5 per cent in 2005 to 30 per cent in 2016. It is pegged to hold a 45 per cent share by 2020, continuing its growth trajectory (GST Station 2019). On the other hand, these developments have hurt the unorganised sector, resulting in many of the jewelers shutting shop (Ghosal 2019). If the unorganised sector continues to be adversely affected, low income households will have to increasingly depend on the organised jewelry sector to opt for such gold-based savings schemes. There is a paucity of literature on whether the unorganised sector has continued to provide such schemes despite the ban, and on other institutions providing similar schemes.

3. Investment in Gold-based Savings Product by Low-income Households

As discussed previously, gold holds significant financial and economic value for average as well as low-income households in India. Indian households regularly transact, save and borrow by using gold as an asset. Gold is also a unique financial instrument that plays the dual role of savings and collateral. From a low-income household's perspective, the objective of this research is to situate the gold investment behaviour of remote rural households while being cognisant of their existing household finance and the network they are embedded within. One way to conduct this research is by generating empirical evidence through analysis of administrative data from an entity that offers small-ticket flexible gold investment product.

On a broader level, we were interested to explore the following research areas:

- a. Capture the nature of interaction between low-income households and gold-based savings product
- b. Explore the relationship between households' financial cashflow and market participation with their investment into gold-based savings product
- c. Explore the relationship between households' demographic characteristics with their investment into gold-based savings product
- d. Investigate the utility of gold-based savings product for low-income households

²⁰Organised jewellery companies may gain from ban on risky deposit schemes, The Economic Times

To further the research in these areas we used administrative data from the Dvara SmartGold dataset²¹. Dvara SmartGold is a gold-based micro-savings product offered to help low- and middle-income households, and particularly women, to financially plan for their short, medium- and long-term goals while simultaneously capitalising their preference for gold. This digital gold savings product facilitates the financialisation of investment in gold that the government has been trying to achieve through many of its own policies like the Gold Monetisation Scheme, as we have seen in the previous chapter. It provides a simple solution for middle- and low-income households to safely and systematically save through gold, while providing them enough flexibility as per their convenience and guaranteeing them immediate liquidity in times of any unexpected emergencies. A brief summary of the product can be found in the Appendix.

A Dvara SmartGold Customer can choose to invest into the product at either daily/weekly/monthly/ ad-hoc frequency. The customer has the option to invest ₹250, ₹500, ₹1000, ₹1500, ₹1317, ₹1660, ₹1817, ₹2160, ₹2161, ₹2590; ₹2661; ₹3090 – as monthly instalments into bullion. The product operates like a savings out where in:

- a. The customer can withdraw part or entire balance anytime any time
- b. Can redeem the balance (part or full) into coins or jewellery
- c. She can also borrow a loan against the gold balance in the customers locker

The Dvara SmartGold product was launched in October 2019 and is now operational in more than 350 branches across the states of Tamil Nadu, Karnataka and Chhattisgarh. The product was initially offered to the customers of Dvara KGFS who have previously taken up various loans such as joint liability group loans. The features of the gold-based savings product is presented in the appendix.

3.1. Description of the dataset

To conduct this research, we used transaction data from two administrative datasets – Dvara SmartGold dataset and Dvara KGFS datasets. We had access to Dvara SmartGold Dataset from the product launch month in October 2019 to February 2020, comprising of 1,962 customers from Tamil Nadu. We wanted to understand the demographic and overall financial profile (assets and liabilities) of these customers for which we used the Dvara KGFS dataset from 2016-17. Combining both the datasets we draw our insights on low-income households' interaction with a gold-based savings product.

While this is a small subset of the administrative dataset, and the product itself very new, to clearly establish statistically significant trends and forecasts, a preliminary statistical analysis of the demographic and financial profiles of these households and how these interplay with the product usage can form a useful starting point from where further analysis can be carried out once the product becomes older, familiar and more data becomes available.

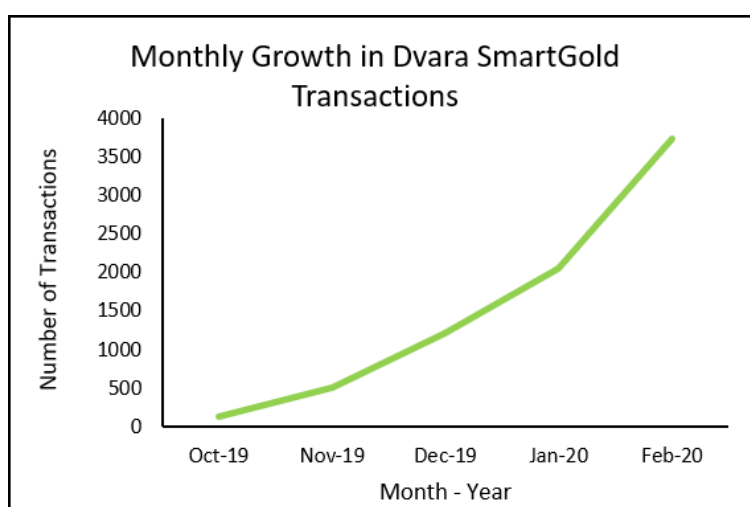
In the following parts of the section, we discuss the insights gained from our preliminary data analysis which was mostly exploratory and descriptive in nature.

²¹Dvara SmartGold is a company registered under Dvara Trust

3.1.1. Participation in gold-based savings product

We started the analysis by looking at the summary of investments into the product using the administrative dataset of Dvara SmartGold. We found out that all the transactions that have happened so far vis-à-vis the product have been purchase transactions (transactions can either be purchase or sale, but so far, there have only been purchases. Therefore, all subsequent usages of ‘transactions’ in the section refer to purchases only). The product has been growing both in terms of number of customers and transactions every month. Graph 2 shows the month on month growth in the number of transactions.

Graph 2: Month wise number of transactions in Dvara SmartGold



We selected a subset of Dvara SmartGold customers for whom we have prior information from the Dvara KGFS administrative dataset, for all further analysis. This subset comprised of 1,962 customers only from Tamil Nadu. The average amount invested into Dvara SmartGold by the subset of customers is ₹665. Most of the customers invest ₹250 per transaction, with the other higher denominations invested by considerably fewer customers²². We looked at the number of transactions and found that almost 40 per cent of the customers have invested only once in the product so far. The table below shows the break-up of the number of customers who have made different number of transactions.

Table 4: Households and Number of Transactions

Number of transactions	Number of Households
1	782
2	489
3	328
6	2

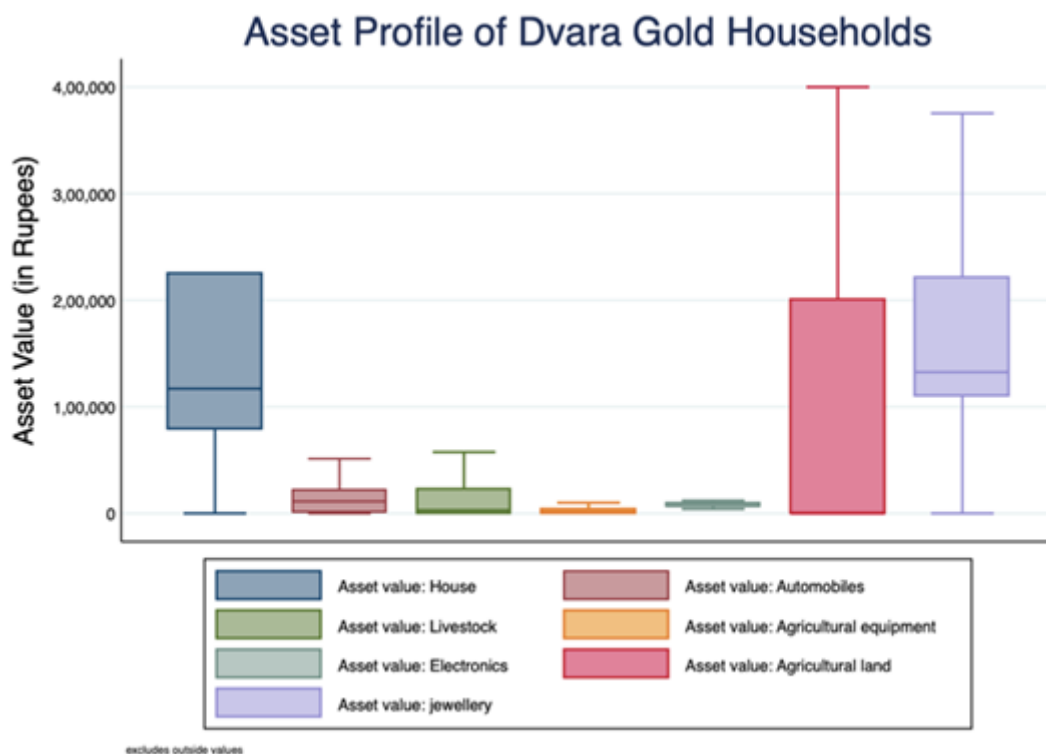
²²Dvara SmartGold Customers are given an option of choosing from fixed denominations to invest. These are ₹250, ₹500, ₹750, ₹1,000, etc.

3.1.2. Asset profile of Dvara SmartGold Households

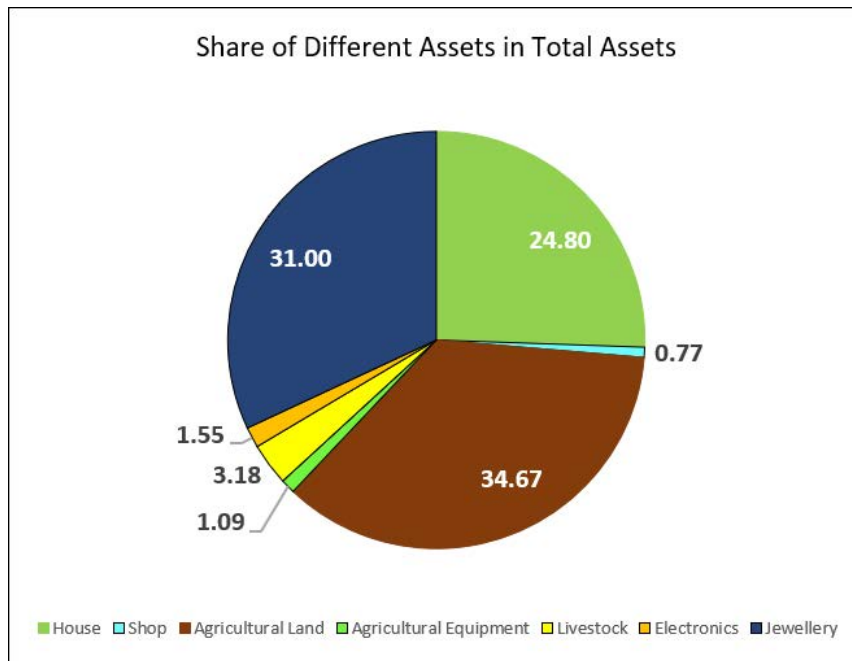
We looked at the asset portfolio of the households of Dvara SmartGold customers. The average value of their asset holdings is ₹5,27,500, out of which agricultural land, jewellery and residential property form significant shares. Other assets like livestock, durable electronics and agricultural equipments make up small chunks. Graphs 3 and 4 show the asset portfolio of households. It is important to note that assets held are mostly physical in nature and financial assets like savings accounts, insurance etc. are almost negligible (less than 1 per cent).

Jewellery makes up the second largest chunk of the household asset portfolio at around 31 per cent, with a household having jewellery worth ₹1,65,000 on an average. Only agricultural land takes up a higher share in household asset portfolio (35 per cent) than jewellery. This goes on to show the importance given to jewellery in general and gold in particular by low income households.

Graph 3: Asset profile of Dvara SmartGold Households



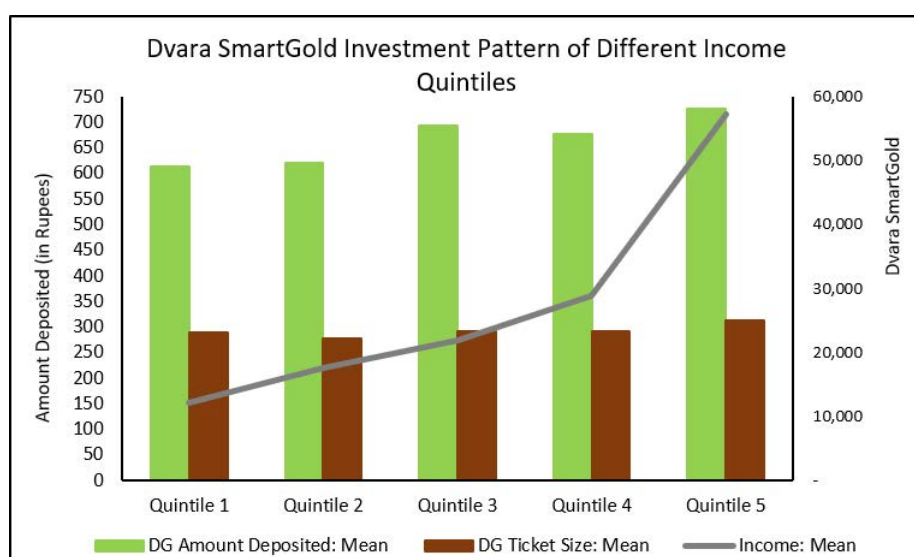
Graph 4: Share of each asset class in household asset portfolio



3.1.3. Participation in gold-based savings product by different income quintiles

We looked at how households belonging to different income quintiles invest in the product. While there are small differences across quintiles, with households from higher income quintiles having deposited more than those from lower income quintiles, these differences do not seem to be considerable.

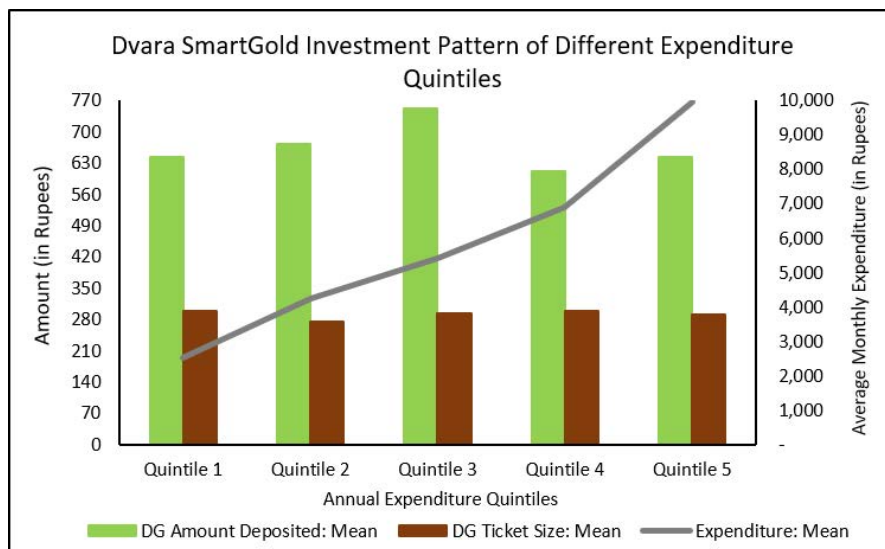
Graph 5: Income Quintiles and Dvara SmartGold Investment



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We looked at how investment in the product varies with total annual household expenses. We found that investments are not changing uniformly with expenditure. However, we see that households in lower expenditure quintiles invest slightly more than households in higher expenditure quintiles.

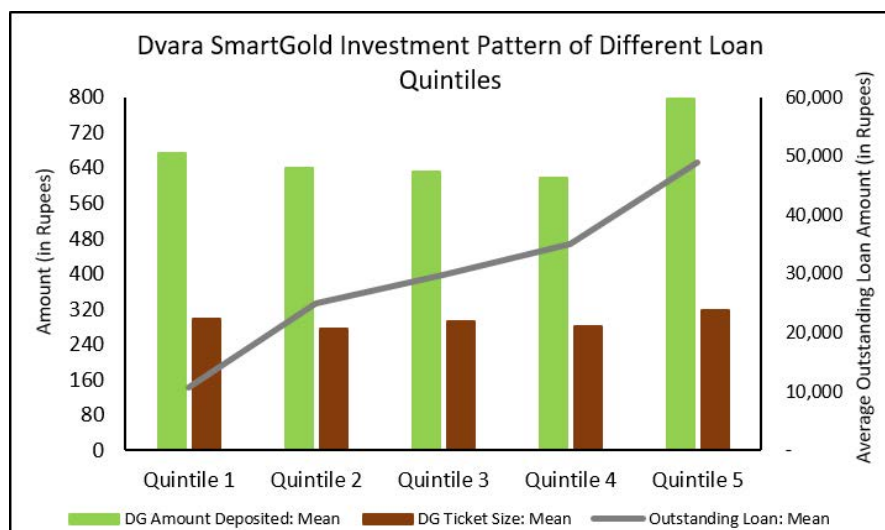
Graph 6: Expenditure Quintiles and Dvara SmartGold Investment



3.1.5. Participation in gold-based savings product by different loan quintiles

We looked at the loan portfolio of households in order to find out if households with different levels of outstanding loans invest differently. While the households in the top most outstanding loan quintile are an anomaly to the trend, investing more in the product than all other quintiles, the trend seems to be that households in lower quintiles tend to invest more than households in higher quintiles.

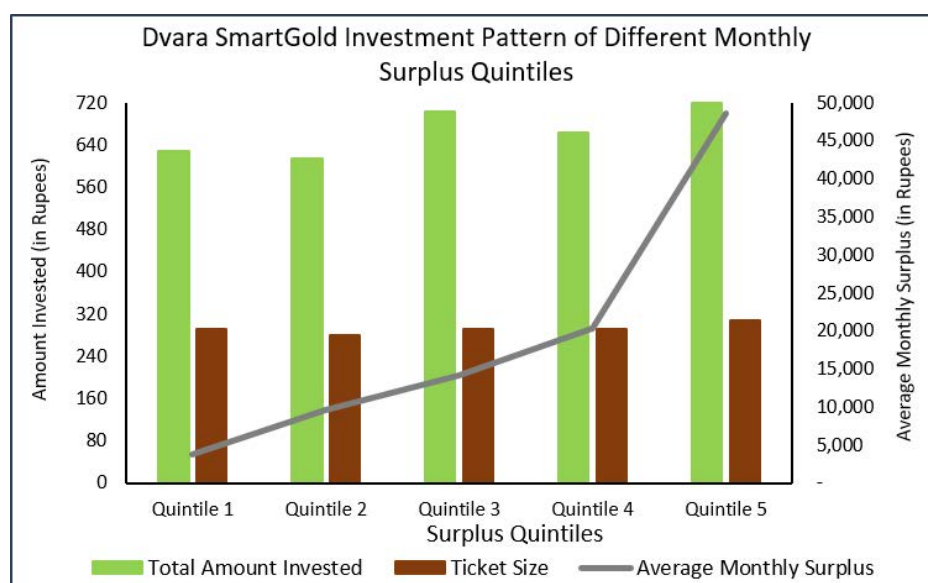
Graph 7: Outstanding Loan Quintiles and Dvara SmartGold Investment



6 Participation in gold-based savings product by different surplus quintiles

We approximated the average monthly surplus held by households by approximating their income, expenditure, and loan payment, and segregated them into different surplus quintiles. While there is no substantial difference, higher surplus quintiles invest slightly more into the product. However broadly the demand for Dvara SmartGold have been relatively inelastic to surplus income.

Graph 8: Surplus Quintiles and Dvara SmartGold Investment

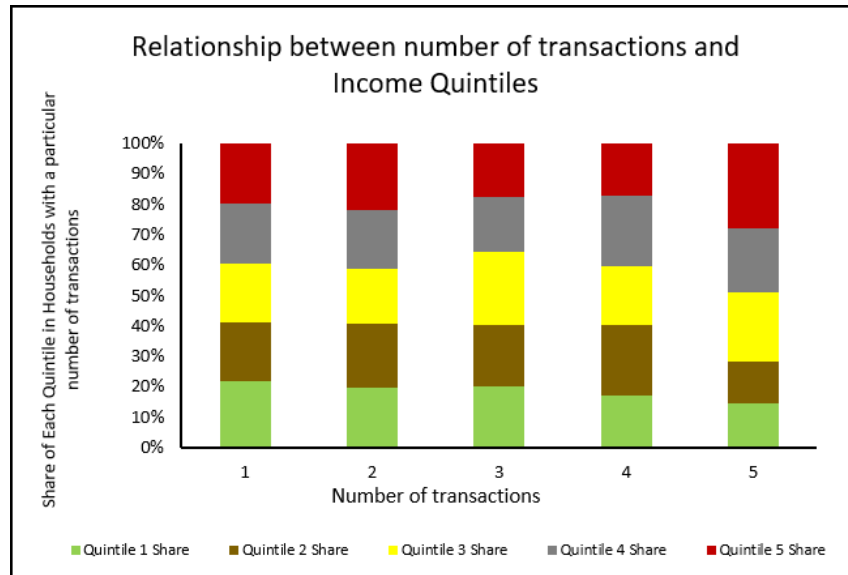


7 Number of transactions made by Dvara SmartGold households

Based on the customer’s household income and expenditure quintiles, we tried to find out the volume of Dvara SmartGold transactions made by all the customers. We attempted to identify categories of customers who have invested into Dvara SmartGold based on two criteria – their income/ expenditure quintile and their frequency of investment.

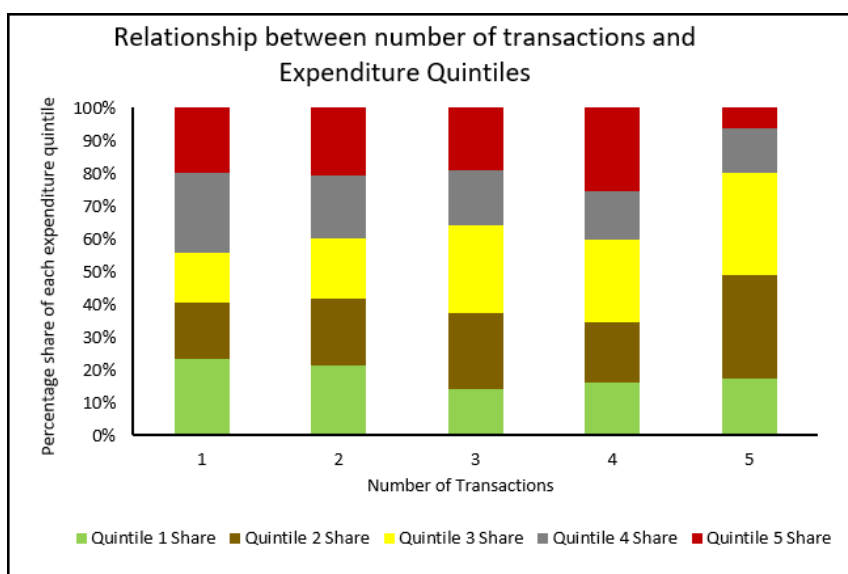
- i. *Number of transactions done by various income quintiles* - As can be seen in Graph 8, the share of households belonging to top three income quintiles keeps increasing as the number of transactions increases, while the share of the bottom two quintiles keeps reducing. This could be interpreted as households with greater income tend to invest more regularly on the product than those belonging to lower income quintile. The graph on the right shows the average annual income of households in different income quintiles.

Graph 9: Number of transactions and Income Quintiles



ii. *Number of transactions done by various expenditure quintiles* - The trend with expenditure quintiles looks to be the opposite of what we found vis-à-vis income quintiles. As can be seen in Graph 9, the share of households belonging to top two expenditure quintiles keeps decreasing as the number of transactions increases, while the share of the bottom three quintiles keeps increasing. This essentially means that households that tend to spend more have invested less frequently than households that spend less. The graph on the right shows the average annual expenditure of households in different expenditure quintiles.

Graph 10: Number of transactions and Expenditure Quintiles

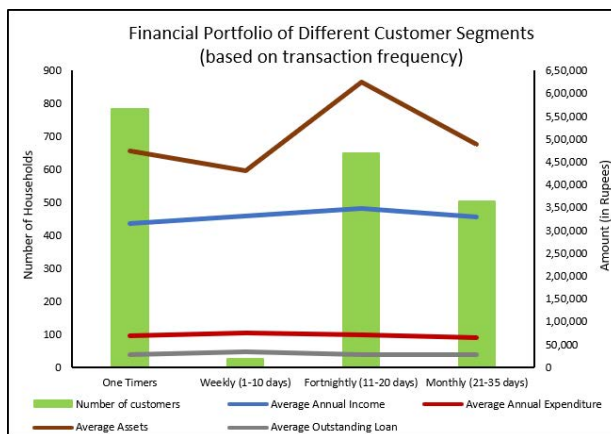


7 Frequency of Transactions by Dvara SmartGold Customers

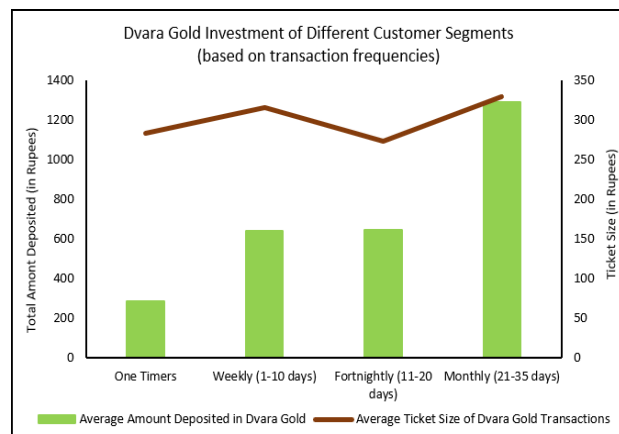
We categorised the Dvara SmartGold customers into different segments based on their frequency of transactions on the product in order to find out how the segments vary in terms of their financial portfolio and amount invested in the product. The segments are one-timers- people who have invested only once, weekly customers- customers whose transaction frequency is between 1-10 days, fortnightly customers- customers whose transaction frequency is between 11-20 days, and monthly customers- customers whose transaction frequency is between 20-35 days. Graph 11A displays the financial portfolio of each segment, while Graph 11B displays the amount invested into the product by them.

We see that fortnightly customers have the highest value of assets and income, while having low expenditure and outstanding liabilities. However, it is the customers who deposit at a monthly frequency who have deposited the most amount on the product so far. There are very few customers who have invested at a weekly frequency (25). Interestingly, the ticket size of weekly customers is comparable with that of monthly customers, and higher than that of fortnightly customers. There are 782 customers who have invested only once in the product and almost all of them have invested the lowest allowed denomination of ₹250.

Graph 11A: Financial Portfolio of Different Customer Segments (based on transaction frequency)



Graph 11B: Investment in Dvara SmartGold by different Customer Segments (based on transaction frequency)



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