Does the Neighborhood Effect contribute to participation in the GMS?

Early Evidence from the IGPC PRICE Household Survey on Gold Consumption

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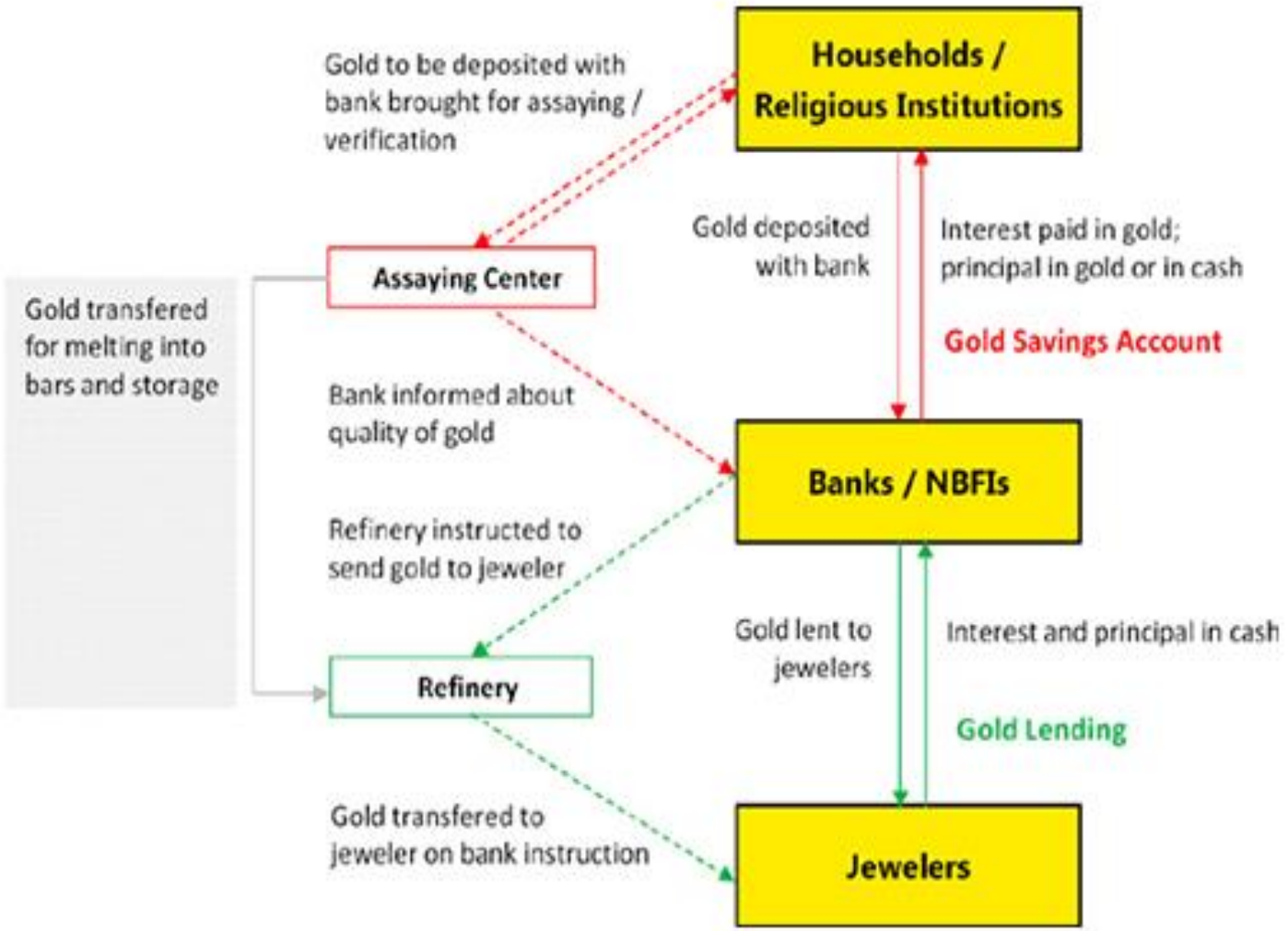
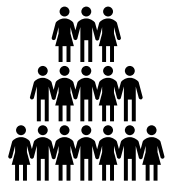
Introduction to the Study : Motivating Factors



Potential Issues

- Incentive Structure
- Low Financial Inclusion
- Entrenched Customs
- Marketing Peer Behaviour?



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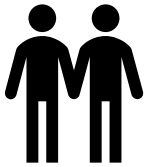
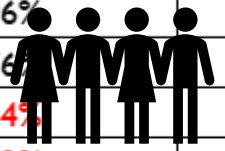
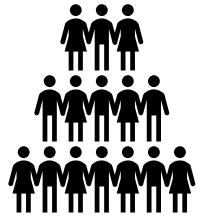
Introduction to the Study : Motivating Factors

Locality	%HH deposited under GMS
PIMPRI CHINCHWAD (M CORP) WARD NO 5	0%

Capital	% of Households which had heard about GMS	
	In the Capital	In the State
Patna	83.53%	38.40%
Bhubaneswar	54.96%	40.49%
Gu[illegible]	56.76%	50.55%
Mumbai Suburban	39.14%	52.02%
Mumbai	28.32%	52.02%
Jaipur	38.78%	44.26%
Bangalore	35.02%	54.89%
Hyderabad	34.68%	57.58%
Ranchi	16.07%	34.13%
Amritsar	14.06%	24.25%
Bhopal	10.90%	47.42%
Lucknow	8.57%	18.65%
Chennai	6.70%	22.24%







Review of Literature

Participation in GMS depends on several inter-connected **socio-economic factors** other than peer effects

1 Financial Literacy

- Education, but not necessarily, since the specific skillset may not have been imparted
- Prior experience in dealing with investment products
- Rural vs urban

2 Perception of Liquidity

- Past usage of gold for pledging
- Inaccessible formal lending channels*

3 Affective Attachment

- Number of females in the family*

4 Economic Circumstances

- Affluence
- Affluence relative to others (feeds into conspicuous consumption)*
- Number of non-earning members
- Steady income source

5 Accessibility

- Distance from bank branches and CPTCs*
- Number of hallmarked jewellers in the locality*

Those marked with an asterisk have not been included in the model, due to easy unavailability of recent information.

Description of Data

Variable	Obs	Mean	Std. dev.	Min	Max
rural	180,015	.3590312	.4797177	0	1
coll_educ	180,015	.3926728	.4883464	0	1
perc_ann_e~h	180,015	73.44658	95.73358	6.75	6150
pub_sal	180,015	.1023026	.3030467	0	1
inv_fin_tr~s	180,015	1.858363	11.24918	0	557
mem_earn	180,015	3.210061	1.429209	1	8
log_annexp~h	180,015	4.012247	.6969555	1.909543	8.724207
aff_pld	180,015	9.617754	70.03084	0	4250

Choice of Econometric Model

Linear probability model with binary dependent variable and average participation as the explanatory variable

Examples from Literature

- **Duflo and Saez**: study on influence of colleagues on a person's participation in retirement savings plans
- **Brown and Laschever**: study on the effect of peers on an individual's likelihood of retirement
- **Girshina et *al.***: study on effect of immigrant's stock market participation on investment choices of natives residing in same municipality

Exogenous Effects

- Presence, at a small distance, of:
  - participant banks
  - CPTCs
  - jewellers (especially those which offer hallmarked jewellery)
    - also, possibly, jewellers in an area which encourage participation in GMS
- locker charges offered by banks in the area

Correlated Effects

- Similar levels of affluence among households residing in an area
- Roughly equivalent family size especially in urban locales

Model Specification

A linear specification has been assumed. We seek to estimate the following model:

$$y_i = \alpha + \beta \hat{E}_{-i}(y \mid x) + Z_i\acute{\eta} + u_i, \qquad (1)$$

where i is an individual observation corresponding to a household

Each household in the sample is characterized by a vector (y, x, Z, u):

- y is the outcome of interest (dummy for participation in the GMS)
- x indicates the location where the household resides
- Z (observable characteristics) and u (unobservable scalar) are individual characteristics of the household that influence y

$$\hat{E}_{-i}(y \mid x) = \Sigma\, y_j / (N_x - 1) \text{ where } j \in x \setminus \{i\} \qquad (2)$$

- is the average of y in a given location x (excluding the individual i)
- N_x denotes the number of surveyed households residing in location x.

Results & Implications

```
. reg gms_d gms_d_mean rural coll_educ mem_earn log_annexp_th aff_pld inv_fin_trans pub_
> sal if ann_hh_inc > 85000, robust

Linear regression                               Number of obs     =    180,015
                                                F(8, 180006)      =    5414.25
                                                Prob > F          =     0.0000
                                                R-squared         =     0.5203
                                                Root MSE          =     .14979
```

gms_d	Coefficient	Robust std. err.	t	P>|t|	[95% conf.	interval]
gms_d_mean	.9753257	.0049071	198.76	0.000	.9657079	.9849436
rural	.0034427	.0007522	4.58	0.000	.0019684	.004917
coll_educ	.0095201	.000781	12.19	0.000	.0079894	.0110508
mem_earn	-.0018152	.0002496	-7.27	0.000	-.0023044	-.0013261
log_annexp_th	.0017728	.0006465	2.74	0.006	.0005056	.00304
aff_pld	.000036	.000011	3.29	0.001	.0000146	.0000575
inv_fin_trans	.0009328	.0000702	13.29	0.000	.0007953	.0010704
pub_sal	.0002144	.0011276	0.19	0.849	-.0019957	.0024245
_cons	-.0067318	.0029366	-2.29	0.022	-.0124874	-.0009762

Results & Implications

First-stage regression summary statistics

Variable	R-sq.	Adjusted R-sq.	Partial R-sq.	F(1,180006)	Prob > F
gms_d_mean	**0.2572**	**0.2571**	**0.2022**	**45616.9**	**0.0000**

Minimum eigenvalue statistic = **45616.9**

Critical Values # of endogenous regressors: **1**
H0: Instruments are weak # of excluded instruments: **1**

2SLS relative bias	5%	10%	20%	30%
	(not available)			

	10%	15%	20%	25%
2SLS size of nominal 5% Wald test	**16.38**	**8.96**	**6.66**	**5.53**
LIML size of nominal 5% Wald test	**16.38**	**8.96**	**6.66**	**5.53**

Exogenous: rural coll_educ mem_earn log_annexp_th aff_pid pub_sal
inv_fin_trans divers_fin_gold_mean

Thank You!

Comments