

Individual Worth vs. Aggregate Value: Influential Factors of Non-Market Works (Nmws) In Bangladesh

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Abstract

The national accounts appear to be saying that the NMWs are worth nothing; but, in reality, the NMWs increase the value of purchased goods and services and contribute to the formation and development of human resources. Abdel, et al. (1969), Chadeau, (1992), Hamdad, (2003), Charmes, (2006) put their effort to evaluate the NMWs for their respective countries by introducing satellite account and finally comparing with the national account. Although the processes of evaluation of the NMWs are difficult task, here two methods, such as works method and opportunity cost method, have been incorporated to evaluate the NMWs in Bangladesh. To know individual worth to producing NMWs and to discover the method of estimation of the NMWs, this study presents the idea of our economy which is always undermined by the conventional market framework. This study is principally based on primary data and case studies. To know the contribution of different groups of people who produce NMWs, this research concentrates on aggregate output of the value of NMWs. This study find that earning member, total hours of NMWs, estimated total support and employment status were the significant determinant to evaluate the aggregate value of NMWs. Two models were considered based on two methods of estimation. Both of the models signify the said independent variables. By taking rational figures (available information on field research) against the independent variables, this research uncover that tk.2,714 person/per month and tk. 2,317 person/month were produced by works method and opportunity cost method respectively.

Index terms—

1 INTRODUCTION

egular market framework is capable of evaluating the value of the formal economy; but it failed to appraise the value of NMWs. Some works such as collecting water, cleaning and taking care of house, washing clothes, washing dishes, cooking and serving meals, taking care of children, taking care of the sick and the elderly, crop gleaning, collecting and making cow-dung cakes and sticks, etc. which produce significant values can not be evaluated by the conventional market structure. These types of works can This paper primarily approaches the NMWs involving unpaid labor. In this area, data generated by Bangladesh Bureau of Statistics (BBS), have mainly focused on the household activities. In the revised estimates of the period between 1989 90 and 1998 -99 by the National Accounts Statistics of Bangladesh, the data were collected from different sector and sub-1993, the non-market sector or the informal sector is a sub-sector of the household institutional sector in the SNA, and the Non Profit Institutions Serving Households (NPISH) cannot include economic units of the informal sector. But, all the production of the household sector cannot be imputed to the informal sector. The two types of non-market production are ignored by SNA. The first type is non-SNA work providing unpaid services for own final

use. Work providing unpaid domestic services for own final use within household include cleaning, decoration, maintenance of dwelling occupied by the household, preparation and serving of meals, transportation of members of the household and caregiving services to household members (care, training and instruction of children; care of the sick, infant or old). The second NMW is non-SNA work providing unpaid domestic services, care giving services and volunteer services to other households or communities. Here researchers deliberately exclude NMWs outside SNA. The 1993 definition of the informal sector is based on the characteristics of the economic unit in which the person is working.

2 II. THE IMPORTANCE OF THE DIFFERENT METHOD (SATELLITE ACCOUNTS)

The impact of a system of satellite accounts of national income could be enormous, which means helping to provide an accurate accounting of essentially very private matters for crucial public purposes. According to Landefeld, et al. (2005) "Such accounts would allow for experimentation with changes in scope and measurement for national accounts in the form of 1 Based on PhD research, Title: "Estimating Non-market Activities: A Study on Unpaid & Underpaid Labor Force in Bangladesh" and awarded PhD in 2011. 2 PhD, Assistant Professor, Economics, National University, Gazipur.

3 SNA, System of National Accounts 4 Satellite Accounts: Satellite accounts are produced in the context of National Accounts but are more flexible as they allow us to change ebruary F be mentioned as non-market works (NMWs) in.

sector following the methodology of SNA-93 framework. According to the international definition adopted in concepts, definitions, accounting rules and classifications where this would improve analysis, (Landefeld, et al. 2005). To estimate NMWs, satellite accounts play a significant role. It provides a framework linked to the central accounts and which enables attention to be focused on a certain field or aspect of economic and social life in the context of national accounts. A team of the satellite accounts produces a framework that enables attention to be focused on certain fields or aspects of economic and social life. Satellite accounts can be used to:

ii) Present information from National Accounts differently iii) Add new information to core accounts iv) Experiment with new concepts and methodologies, which may influence the development of national accounts Imperfect market structure never gives accurate price of any factor. As a result, the wage of labor has always been misjudged in the market frame-work process. So the valuing of NMWs has to face some problems. But this research aims to overcome most of the problems and to minimize errors of NMWs of national income accounting through different tools. In Bangladesh, we have been observing many unpaid and underpaid activities (Bayes, et al., 2007) and we face various gender discrimination problems (Hamid, et al., 1994) that have created inequalities among various social strata. So, the research findings and recommendations would try to evaluate the NMWs and make the people aware of their real contribution in the national economy irrespective of their age and gender. On the other hand, the research outcome will also be helpful in formulating government policies to ensure social justice and equities, transfer payment of different vulnerable people who get almost nothing from their non-market participation.

A theoretical frame work regarding the research was augmented to define NMWs, unpaid, underpaid and informal economy that facilitated to determine the methodology as well as estimate the a) Definitions Adopted for the Study: At long last, the following definitions are developed for the clarification and analysis the research procedure:

3 ORGANIZATION OF THE PAPER

This paper is made of a research methodology after giving the definition of NMWs, unpaid, underpaid and informal economy. To know the findings of NMWs a bridge estimation procedure is given. Two types of research findings are included: one is produced from data analysis and other from the analysis of case studies. In the area of data analysis, three models are considered in the sphere of two methods of estimation: works method and opportunity cost method. In the field of two methods of estimation of NMWs three models are set out considering different variables of NMWs. In the end, a concluding remark is given for overall findings.

IV.

4 RESEARCH METHODOLOGY

a) Objective: This paper deals on the NMWs of the unemployed and underemployed men, women, and children who are engaged in generating the value (use value) working in households, outside the households sector and informal sectors. The main objective is to discover and estimate the explanatory variables of NMWs. To know the impact producing NMWs some explanatory variables were taken into considered. The main objectives are value of NMWs in Bangladesh. The following definitions are pertinent of this paper: i. To identify the importance of the individual worth regarding the aggregate value of NMWs. ii. To know the impact of the particular explanatory variables of NMWs on the aggregate value of NMWs.

So, satellite account can make a room to evaluate NMWs, it can be finally incorporated with the National Account in Bangladesh. By applying the discrepancies behind to incorporate satellite account in National

Account. supplementary accounts. These accounts would be consistent with and could be used with the existing national accounts without diminishing the usefulness of the core accounts". Which one is more important in human life, productivity or standards of living? While development policies are generally geared to increase productivity, increases in productivity are not necessarily reflected in increases or improvements in standards of living. In the industrialized countries, for instance, there are questions about the real benefits of full-time employment for mothers in the absence of adequate child-care arrangements and/or more sharing of household responsibilities by fathers. In the developing countries, living standards may actually deteriorate while GDP rises. This research would like to consider the personal and family information including academic qualification, experience, age, profession, marital status, etc. and recognize the NMWs and its duration a day. All types of partial benefits provided against the NMWs in terms of food, shelter and clothes are intended to be identified by asking questions. Some case studies are also gathered to find real picture of NMWs.

c) Data Collection: This research is mainly based on primary data and case study. The primary data sources cover some rural and urban areas in Bangladesh while the secondary data sources involve the direct market work area. To accommodate various NMWs, three types of sample locations were considered: i) urban, ii) rural and iii) semi urban or semi rural (mixed sample areas). The respondents were asked to fulfill a questionnaire having three parts: household NMWs, NMWs outside the household and NMWs before employment. Workers were to choose their part and mention the names of the NMWs, duration of the NMWs and to mention whether receivable anything against the NMWs. Random sample technique was used. Data was collected from Dhaka and Gazipur districts (see Appendix 01, for more). Besides the data, ten case studies were also included. d) Estimating method: Two methods were used to estimate the value of the NMWs: i) opportunity cost method, and ii) works method. Linear regression technique was exercised to evaluate the relationship among the respective variables.

V.

5 ESTIMATION PROCEDURES

Two methods are considered to estimate the NMWs: 1. works method 2. opportunity cost method Problem with works method: People are familiar with different types of non-market activities. We have divided all these into three main categories: 5 Value consists of use value (utility) a) household NMWs b) outside NMWs and works. We also know that, the name of one single NMW can be identified differently in different locations. A sample survey (Hosen, A. 2010) found 16 describe (mention as 1 to 16), 17 (mentioned as 21 to 37) and 06 (mention as 41 to 46) NMWs which represent the three categories of household NMWs, outside NMWs and NMWs before employment respectively: Opportunity cost (OC) method: To get a suitable estimate of NMW opportunity cost method is used. OC method explores the potential of an economy. We have identified three factors of a respondent: the level of education of a respondent, sample areas i.e. where a respondent is living, and age i.e. how older of a respondent. Each factor provides a window to evaluate an individual according to their scope, scale and skill. Three variables were considered to estimate OC method: educational qualification (w1), sample area (w2) and age (w3). These three variables appeared differently for each respondent; it also varied from one respondent to another. To judge each variable for each respondent, other two variables remained the same. Finally, OC was derived from the average value of w1, w2 & w3, i.e. OC named as average wage, $W = (w1+w2+w3)/3$.

6 VI.

7 RESEARCH FINDINGS a) Regression analysis:

Model Analysis: Among a variety of independent variables of NMWs, each method of estimation of NMWs was considered two models and each model is distinguished by some independent variables (regular) and some dummy independent variables (see Appendix 02, all dependent, independent and dummy variables, for more). The models are: EMSD1: Service provider=1, otherwise=0 (Agri. based employed) EMSD5: student=1, otherwise=0 c) NMWs before employment.

Among the three categories, different types of non-market works are included. In the questionnaire, some blank spaces were kept to accommodate some unfamiliar NMWs. Besides this reason, the name of the NMWs cannot be mentioned as the name of formal Educational qualification: EQD6:graduate=1, 0=otherwise EQD7:masters=1, 0=otherwise, Kinship with the family head a) b)

Kinship with the family head: KFHD1: wife=1, otherwise=0 (self=0) KFHD2: daughter + daughter-in-law=1, otherwise=0

It can be anticipated that, among the various explanatory variables of NMWs earning members, hours involved in NMWs and support against NMWs were influenced most. Generally, it can be assessed that NEM and total value of NMWs are positively related with each other. At the same time THNMW also positively response. On the other hand, people who engage in NMWs and got return or support other than money are inversely related with the total value of NMW. A monetary estimation play huge role to know the actual contribution of NMWs which producing by different group of people in an economy. Although, the measurable the unit of said variables are not remain same. Here, NEM, T HNMW, E TMS are considered as the number of people, total hours of NMWs and estimated total monetary support consecutively. Expected sign of Model 1: (NEM) -, (THNMW) +, (ETMS) - Expected sign of Model 2: (EMSD1) -, (EMSD5) -, (EQD6) +, (EQD7) +, (KFHD1) + (KFHD2) + The expected sign was completely found from the three independent variables which confirm whether TVNMWW

and NEM were negatively related, TVNMWW and THNMW were positively function, TVNMWW and ETMS were negatively related to each other. Among the three variables, NEM and ETMS were 0.833, $F = 165.475$ ensured a well fitted model. Again, in terms of the level of significance, NEM and ETMS were doing well, i.e. both variables strongly play their explanatory role to explain TVNMWW. Now it can be assessed if the number of earning members decrease, there is a possibility to increase the value of NMWs through works method.

Result of Model 2 The expected sign was completely found from three independent variables which confirm whether TVNMWW and EMSD1 were negatively related, TVNMWW and EMSD2 were negatively related and rest of the dummy variables i.e. EQD6, EQD7, KF HD1, KFHD2 all showed result positive relationship with the dependent variables of TVNMWW. In terms of model found significant. In terms of model analysis, Adj.R² = analysis, Adj.R² = 0.134, $F = 3.55$ does not ensure a good model. The expected sign was completely found from three independent variables which confirm whether TVNMWOC and NEM were negatively related, or TVNMWOC and THNMW were positively function, or TVNMWOC and ETMS were negatively related with each other. Among the three variables, NEM, THNMW and ETMS are found significant. In terms of model fitted model. Again, in terms of the level of significance, NEM, THNMW, ETMS and constant were doing well, i.e. all variables in the model strongly play their explanatory role to explain TVNMWOC. Now it can be assessed if the number of earning members decrease, there is a possibility to increase the value of NMWs through works method.

8 b) Case studies

The study used participatory methods of data gathering and qualitative methods of data analysis. Data was gathered to answer these questions through some objectives which include a) family details, b) personal information, c) name of the NMWs which he or she has been discharging, with duration and time in day or in a month or other, d) own perception about the NMWs and evaluate then and e) justification of the evaluation of the NMWs.

A total of ten case studies were covered from different sample locations. Case one is given as an example:

9 Case one:

Case Study: Ramija I am Ramija. We (mother, brother, sister-in-law and me) live on a boat beneath the bridge of Titarpur. My mother (45) is a 'shandari' (trading cosmetics for low income group). My brother (25) works at a garments factory. My sister-in-law and I stay in the house all day long. This is the boat here; we have been living here for 40 years. Previously, my mother was the only earner. But now, my brother also earns and with this we have to survive. We don't have to pay house rent so we, somehow, survive with the income. After waking up in the morning, my sister-in-law and I clean the house and my mother cooks. After meal, mother goes for business and my brother at work. analysis, Adj.R² = 0.803, $F = 135.621$ ensured a well My sister-in-law and I keep inside the house throughout the day. At noon, we cook, shower and eat. At night we cook, eat, and wash the plates and go to sleep. We don't have the feel of the word happiness in our lives. Almost every work I do in all day is without money. Who is going to pay me for cooking in the house? I clean the house, wash the clothes. Mother stays off the house all day long. So, my sister-in-law and I have to do all works in the house. Why money for this work? People say we are "vagabonds", happy folk, with nothing to do, and sleeping all day long. But, we are not happy in reality. Since we are "vagabonds", nobody wants to offer us jobs. People from Jamalpur, Mymensingh come here and get jobs. But, we don't because we don't have a permanent address, living in the boats. Because of living in boat, nobody wants to trust us. What is this called, happiness or death? We don't have electricity, or even the opportunity of education. Nobody wants to talk to us even. If we go to school, they ask us our whereabouts. They say, "We won't accept you in our school because you are today here; tomorrow you will be somewhere else". Please tell the government that we are not happy at all. We want a place to live at. But we don't get it because the govt. charges tk.2-3 lac for a special allotment of land. The only thing they know is bribe. i. Findings from case studies: Different types of people were requested to be interviewed. A framework was formulated for asking or interviewing the participants. The case studies include the statements of housewife, students, service holder, illiterate persons, and so on. All the respondents were somehow related to the NMWs like washing clothes, taking care of the elders, shopping, cooking, works on charter accountant firm, giving tuition, help to cook (prepare cooking materials), preparing food for children and feeding, washing the pots, cleaning the house, etc.

The following diagnoses were made to understand about delivered NMWs, required time, personal evaluation against their NMWs: There were lots of variations in personal evaluations of NMWs. Sometimes, they found it difficult to evaluate NMWs. All respondents agreed that their NMWs were valuable for the family as well as the nation, and they would like to evaluate their NMWs, not aware or not familiar of the procedure to estimate the value of NMWs.

Meanwhile, respondents were very conscious of the significance of the NMWs, they agreed that the contribution of the NMWs helped their families to make a good future. All the beneficiaries, however, do not reply the same; they, simply, liked to say, "It is their duty to do NMWs, they bound to do that, they have no other option".

VII. CONCLUDING REMARKS

A significant value of the NMWs has been derived from the people of different background in one dependent variable: TVNMWW (Model 1). The model showed that, all expected signs of independent variables were found accordingly, and NEM and ETMS were found highly significant and the model was found to be well fitted (Adj R² = 0.833). The second model (Model 2) had several independent variables: EMSD1, EMSD5, EQD6, EQD7, KFHD1 and KFHD2. Though EMSD5 and KFHD1 were found highly significant, the model was not quite good (Adj R² = 0.134). On the other hand, first model under the OC method (Model 1) took the same independent variables. Here, all were found highly significant and the regression line sound to be fitted as well (Adj R² = 0.803).

It can be assessed that, the intensity of the NMWs in terms of labor hours (384.79 billion labor hours, Hosen, 2011, PhD works) is so high because of the labor surplus characteristics of Bangladesh. So, the economic theory about the augment of input is evaluated inversely in terms of monetary return i.e. huge availability of input is reduced the value or even value less of that input. Moreover, the social structure of Bangladesh itself is working a barrier to incorporate the value of the NMWs. To overcome these barriers, further in-depth research is required in this field. Bangladesh. Three econometric models were introduced under two methods of estimation: works method and OC method. Each model applied linear regression technique by considering the respective dependent and independent variables. There were three independent variables: NEM, T HNMW and ETMS, and Educational qualification, EQD3: eight pass=1, 0=otherwise, (EQD3), 17) Educational qualification, EQD4: SSC pass = 1, 0 = otherwise, (EQD4), 18) Educational qualification, EQD5: HSC pass=1, 0=otherwise, (EQD5), 19) Educational qualification, EQD6: graduate=1, 0=otherwise, (EQD6), 20) Educational qualification, EQD7: masters=1, 0=otherwise, (EQD7), 21) Kinship with the family head, KFHD1: wife=1, otherwise=0 (self=0) (KFHD1), 22) Kinship with the family head, KFHD2: daughter + daughter-in-law=1, otherwise=0 (KFHD2), 23) Kinship with the family head, KFHD3: son=1, otherwise=0 (KFHD3), 24) Kinship with the family head, KFHD4: brother + cousin=1, otherwise=0 (KFHD4), 25) Kinship with the family head, KFHD5: father + father-in-law=1, otherwise=0 (KFHD5), 26) Kinship with the family head, KFHD6: nephew=1, otherwise=0 (KFHD6), 27)

Marital status, MSD1: married=m=1, otherwise=0, (um = 0) (MSD1), 28) Marital status, MSD2: divorce=1, otherwise=0, widow=3 (MSD2), 29) Marital status, MSD3: widow=1, otherwise = 0 um = 0, m = 1, divorce=2, widow=3 (MSD3), 30) Prime earner, PED1: husband=1, otherwise=0, (self=0) (PED1), 31) Prime earner, PED2: father+father-in-law=1, otherwise=0 (PED2), 32) Prime earner, PED3: elder brother + younger brother + cousin=1, otherwise=0 (PED3), 33) Prime earner, PED4: elder son + son=1, otherwise=0 (PED4), 34) Prime earner, PED5: mother=1, otherwise=0 (PED5), 35) Family's highest level of education, FHLED1: class 1 to 5=1, otherwise=0 (illiterate=0) (FHLED1), 35) Family's highest level of otherwise=0 (EMSD5), 47) Employment status, EMSD6: underemployed + business look after=1, otherwise=0 (EMSD6).

iii) Dummy variables: Some independent variables are required to adjust with dummy variables which are: 1. Sample area: Three samples are broadly considered as a) Urban area, b) Rural area and c) Mixed area. So two variables are required to adjust. 2. Sex: Two categories of sex are male and female.



Figure 1:

$TVNMWW = 480.81 - 256.27 NEM + 501.529 THNMW - .827 ETMS$
 $TVNMWW = 480.81 - 256.27 * 2 + 501.529 * 6.68 - .827 * 731.33$
 $TVNMWW = 480.81 - 512.54 + 3350.21 - 604.81$
 $TVNMWW = 3831.02 - 1117.35$
 $TVNMWW = Tk.$
Std. Error {423.81} {565.28} {690.6} {824.39} {1622.93}
t value [5.75] [-.729] [- 2.129] [1.198] [.111]
signi. (.000) (.468) (.036) (.234) (.9.12)
+ 1740.47KFHD1 + 243.39 KFHD2
Std. Error {611.43} {806.43}
t value [2.847] [.302]
signi. (.005) (.763)

[Note: Example: NEM= 2 (37%, respondents, highest), THNMW= 6.68 (Average hours, Table16) ETMS=731.33 (PhD1, Excel sheet main, column BD, row 104)]

Figure 2: $TVNMWW=2436.60 - 411.95 EMSD1 - 1470 EMSD5 + 987.66 EQD6 + 189.79EQD7$

Figure 3: 2713.67 per month/per person Result from Excel analysis, $TVNMWW = Tk. 2544.30$ per month/per person The gap Tk. 169.37 (OC of SPSS> OC of Excel) between two results is not so wide. So model is well fitted.

[Note: ebruary F]

Figure 4: Example: $TVNMWW=2436.60 - 411.95 EMSD1 - 1470 EMSD5 + 987.66 EQD6 + 189.79EQD7 + 1740.47KFHD1 + 243.39 KFHD2$ $TVNMWW$

$TVNMWOC = 579.82 - 238.03 NEM + 430.14 THNMW - .903 ETMS$
 $TVNMWOC = 579.82 - 238.03 * 2 + 430.14 * 6.68 - .903 * 731.33$
 $TVNMWOC = Tk. 2316.7$

Figure 5: SPSS> $TVNMWW$ of Excel, so, the above model is well fitted. Example: NEM= 2 (37%, respondents, highest), THNMW= 6.68 (Average hours, Table 16) ETMS=731.33 (PhD1, Excel sheet main, column BD, row 104)

Figure 6: per month/per person Result from Excel analysis, $TVNMWOC = Tk. 2183$ per month/per person The gap Tk. 133.7 (OC of SPSS> OC of Excel) between two results is not so wide. So model is well fitted.

01

Case Delivered NMWs study No.	Spending time on NMWs	Personal evaluation of NMWs value
i. Cooking, cleaning the house, washing the clothes elder care (mother), other works in house.	No definite time a day	Evaluate nothing (Make a question, who is going to pay?)
ii. Shopping, washing cloth and teaching	5 and halve hours a week.	Tk. 1150 per month
iii. Washing clothes, ironing, shopping and others indefinite NMWs	2 hours a day	Tk. 1100 per month
iv. Washing clothes, wiping the house, sizing vegetables, cooking, taking care of children, etc.	7 hours day	Tk. 2/3 thousand per month
v. Cooking, helping (mother) in cooking, washing clothes, giving tuition to younger sister	4/5 hours a day	Not mentioned but identifies as valuable
vi. Shopping (once a week), guiding younger sisters, work in a CA firm,	9/10 hours a day	Tk. 10/12 thousand in per month
vii. Washing clothes, ironing them, shopping	2 hours a day	Tk. 1600 per month
viii. Cooking, shopping, washing	3/4 hours per day	Tk. 7/8 hundred in per month
ix. Washing and ironing clothes, taking care of the elders, shopping	2.5 hours a day	Tk. 2,900 per month
x. Washing cloths, ironing them, cleaning my room, shopping etc.	No definite time a day	Tk. 3 to 6 thousand per month

Figure 7: Table 01 :

0102

Gazipur						Tongi, Gazipur										Dhaka				
L	J	H	Jo	T	K	K	D	N	T	M	M	M	M	M	M	P	G	K	D	Ib
oc	a	a	y	it	a	al	h	ay	u	ir	ir	ir	ir	ir	ir	o	a	ay	ua	ra
at	m	ri	de	a	m	ya	o	an	r	p	p	p	p	p	p	ll	b	la	ri	hi
io	u	n	p	r	ar	rt	u	ag	a	u	u	u	u	u	u	o	t	np	pa	m
n	n	a	p	k	pa	ag	r	or	g	r-	r-	r-	r-	r-	r-	b	o	ur	ra	pu
	a	l	ur	u	ra					1	2	6	1	1	1	i	li			r
				l									0	1	2					

N
os

Figure 8: Appendix 01 Table 02 :

based employment, service provider, entrepreneur,
house wife, unemployedstudent, and
underemployed.

Figure 9:

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²© 2012 Global Journals Inc. (US)

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