Welfare Potential of Zakat: An Attempt to Estimate Economy wide Zakat Collection

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Presentation Outline

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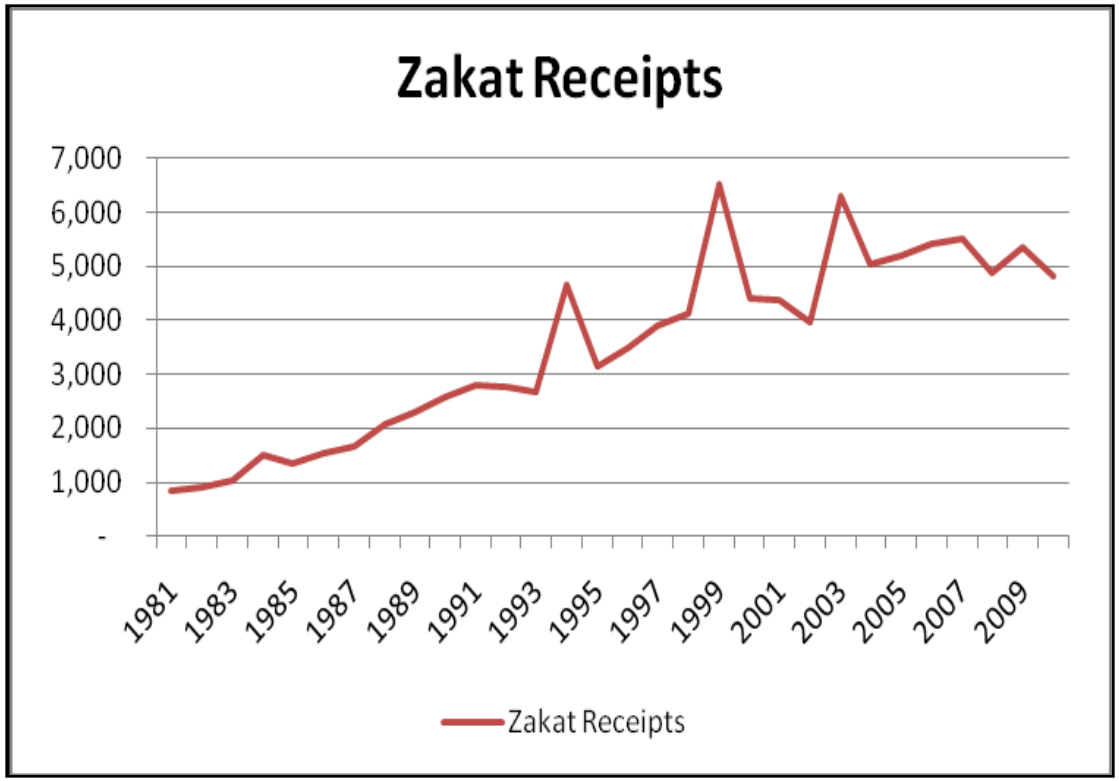
- Estimation of Zakat
- Economics of Zakat
  - Effects on Capital Formation
  - Effects on Circulation of Capital & Income Redistribution
  - Effects on Market Competitiveness
  - Institution of Zakat as Automatic Stabilizer

Introduction

- Zakat literature in IE is mostly descriptive, little empirical.
- Nature of Zakat
  - A religious obligation for purification of wealth and income.
- Economic Effects of Zakat
  - Poverty Alleviation.
  - Asset ownership for poor class.
  - Income and wealth redistribution.
  - Circulation of capital.

Introduction

- Zakat collection at government level is very low due to lack of trust.



Source: Ministry of Finance

Wealth Zakat Mathematical Function

- Lifetime wealth Zakat function for an individual 'i' can be represented as:

$$Z_i = \sum_{t=1}^{n} 0.025\,(NZW_t)$$

Here,

Z_i is Zakat liability of an individual 'i'.

Time period 't' runs from t=1 (current time period) to 'n' (terminal point of life).

NZW_t represents net Zakat wealth. It is computed as $(W_t - N_t)$.

Where W_t is the gross amount of wealth and N_t is the value of Nisab amount.

Nisab is minimum threshold of wealth which is not subject to Zakat.

Wealth Zakat Mathematical Function

- Zakat function of an economy can be represented as:

$$Z_T = \sum_{i=1}^{n} 0.025\ (NZW_i)$$

Wealth Zakat Mathematical Function

- For a particular individual ‘i’, net Zakat wealth at a point in time is given by:

$$W_t = I_t - 0.025(NZW_{t-1}) + W_{t-1} - C_t$$

Here,

I_t is income of individual ‘i’ in time period ‘t’.
NZW_{t-1} is the base of wealth that will be used for Zakat deduction.
W_{t-1} is the wealth of individual ‘i’ in previous time period.
C_t is the consumption in time period ‘t’.

Wealth Zakat Mathematical Function

$$W_t = I_t - 0.025(NZW_{t-1}) + W_{t-1} - C_t$$

- Simplifying the above equation, we get:

$$W_t = I_t - 0.025(W_{t-1} - N_{t-1}) + W_{t-1} - C_t$$
$$W_t = I_t - 0.025W_{t-1} + W_{t-1} + 0.025N_{t-1} - C_t$$
$$W_t = I_t + 0.975W_{t-1} + 0.025N_{t-1} - C_t$$

Expanding it iteratively forward, we get

$$W_{t+1} = I_{t+1} + W_t - 0.025(W_t - N_t) - C_{t+1}$$
$$W_{t+1} = I_{t+1} + 0.975W_t + 0.025N_t - C_{t+1}$$
$$W_{t+1} = I_{t+1} + 0.975(I_t + 0.975W_{t-1} + 0.025N_{t-1} - C_t) + 0.025N_t - C_{t+1}$$
$$W_{t+1} = I_{t+1} + 0.975I_t + 0.950625W_{t-1} + 0.024375N_{t-1} + 0.025N_t - 0.975C_t - C_{t+1}$$

Wealth Zakat Mathematical Function

$$W_{t+1} = I_{t+1} + 0.975I_t + 0.950625W_{t-1} + 0.024375N_{t-1} + 0.025N_t - 0.975C_t - C_{t+1}$$

- It can be seen that the wealth function will decumulate base year wealth and overall wealth can only increase with increase in income, labor plus non-labor.
- To raise income in an interest free economy, the individual will have to provide labor or invest capital with equity participation and share on P/L basis.
- Consumption in an Islamic economy is also checked by moral directives related to *Israaf* and *Tabzeer*.

Estimation of Zakat

- Wealth Subject to Zakat?
  - As Per Mainstream Islamic Jurisprudence:
    - Metals identified in Hadith (Gold & Silver) and used as currency.
    - Livestock.
    - Tradable Inventory.
    - Currency note and coins (legal tender).
    - Financial securities convertible in currency
      - Investment in Stocks.
      - Bonds.
      - Bank Deposits .
      - Mutual fund Investments etc.

Estimation of Zakat

- Produce Subject to Zakat
  - Produce from Rain-Fed Land: Subject to 10% Levy.
  - Produce from Irrigated Land : Subject to 5% Levy.

- Rationale
  - Land where both labor and capital (water by irrigation) is provided by the producer is subject to a lower levy since he pays price for both factors of production.

Issues in Estimation of Zakat

- How should Zakat be levied on production in industries and services sector?
  - As per Mainstream Islamic Jurisprudence:
    - Non-agricultural production will be subject to Zakat as tradable inventory rather than subject to production levy (5% and 10%).
  - Potential Problems
    - Non-agricultural GDP(~80%) is not under Zakat net for production.
    - Unsold inventory in usually capital goods industry is under Zakat net while industries with JIT inventory system are exempted.
    - ***Implications:* Diseconomies of scale.**

Issues in Estimation of Zakat

- How should Zakat be levied on currency notes, financial securities, investments?
  - As Per Mainstream Islamic Jurisprudence:
    - Currency notes and financial securities convertible in currency are all subject to wealth Zakat.

An Alternate Approach

- Non-agricultural production shall be subject to Zakat rate on production (5% and 10%).

- Financial securities representing investments shall be regarded as means of producing income (Khan, 2005). Zakat shall be levied on income at 10% (Ushr) since it is non-labor income.

- If property is given for use in return for rental income, the property becomes a means of producing income. Zakat shall be levied on income at 10% (Ushr) since it is non-labor income.

An Alternate Approach

- In the case of ESOP, the DY and CGY shall be subject to a 5% levy.
- It is because such income is earned while providing capital (price of stock) and labor services.

- Implications
  - Strong means of solving agency problem since income of employees is subject to a lower levy.

Estimation of Zakat

Nisaab Computation

- It is the exempted level of wealth in Zakat computation.

Nisaab Computation	
Price of Silver (10 Grams) in Rs. (As on March 18, 2014)	Rs. 670
Nisaab of Zakat in Silver (612 Grams) in Rs.	Rs. 41,017

Estimation of Zakat

- We have to make an estimate of how many people have the wealth from various sources mentioned above exceeding Nisaab Amount.

- We assume that top 20% people in labor force have the wealth exceeding Nisaab amount; then:

P_{MNA} =Number of people in labor force x 20%

P_{MNA} =60,000,000 x 20%

P_{MNA} =12,000,000

- MNA = Rs. 41,017 (as calculated above)

- From Zakatable assets that are subject to wealth Zakat, we have to deduct the product [P_{MNA} x MNA],

- P_{MNA} x MNA = Rs 492.2 Billion

Estimation of Zakat

Zakat Computation on Gold

- Hard to obtain micro data on gold holdings.
- **Proxy.** We estimate that given a family owns a housing unit with minimum 3 rooms in an urban locality, it will possess on average 200 grams of gold.
- **Rationale.** Most definitely, some families will own more or less than this, but, for Pakistan, this assumption is closer to the mean based on survey done for 85 respondents in Karachi.

Estimation of Zakat

Estimation of Zakat on Gold	
Total Housing Units in Pakistan (Source: WB 2009)	20,480,000
Total Housing Units in Pakistan (2014 Estimated)	22,000,000
Share of Urban Dwellings	32.20%
Share of Houses with Minimum 3 Rooms in Urban Areas	37.95%
Total Houses (Urban) with Minimum 3 Rooms (Source: PBS)	2,688,378
Per Housing Unit Gold Holdings in Grams	200
Amount of Gold in Grams	537,675,600
Price of 1 gram Gold (As on March 18, 2014)	Rs. 5,168
Amount of Gold Value (in million Rs.)	Rs. 2,778,707

Estimation of Zakat

- Estimation of Tradable Inventory

  - Hard to compute value of unsold inventory at a particular date. Wholesale and retail trade is ~17% of GDP.

  - Most of the informal sector is engaged in trading and that contribution does not usually show up in national income accounts.

  - To get a minimum estimate, we take the head 'change in inventories' from national income accounts.

Estimation of Zakat

- Ushr & Khamsa on Agricultural Production
  - Principle: “Ahya-al-Muat” (cultivating idle land).
  - Around 27% cultivable land in Pakistan is idle.
  - It can be brought to use through land reforms.
  - We assume in potential Zakat calculation that this land is brought to use and the production follows CRS.
  - Roughly, 3-4th land is irrigated in Pakistan.

Estimation of Zakat

- Zakat on Livestock
  - There are different rates of Zakat on different types of livestock holdings.
  - But, at least 2.5% Zakat is applied on different categories of livestock.
  - Hence, we apply the conservative rate of 2.5% on livestock.

Estimation of Zakat

- Umar (rta) charged a similar levy on imported goods into the state as was charged by other regions on exported goods.
- It is analogous to the MFN principle in WTO.
- For potential import duty collection, we use the last reported weighted average import tariff rate in Pakistan, i.e. 9.53%.

Estimation of Zakat – Classical Approach

Report Date	Category	Quantity	Amount (Mln Rs.)	Zakat Collectible (Mln Rs.)
	Zakat on Wealth			
	Gold		2,778,707	
End-Jun 2013	Currency in Circulation		1,938,222	
End-Jun 2013	Deposits in Personal Category		3,516,096	
15-Mar-14	KSE Market Capitalization		6,277,437	
18-Mar-14	AUM in Open End Funds		378,187	
18-Mar-14	AUM in Closed End Funds		19,894	
18-Mar-14	AUM in Pension Schemes		6,275	
End-Jun 2012	Outstanding Amount in NSS		1,676,361	
14-Mar-14	Foreign Exchange Reserves		964,000	
End Jun 2013	Changes in Stocks/Inventories		366,545	
End-Jun 2013	Livestock Value (Cattle at Rs 40,000/Unit)	38,300,000	1,532,000	
End-Jun 2013	Livestock Value (Buffalo at Rs 40,000/Unit)	33,700,000	1,348,000	
End-Jun 2013	Livestock Value (Sheep at Rs 10,000/Unit)	28,800,000	1,152,000	
End-Jun 2013	Livestock Value (Goat at Rs 10,000/Unit)	64,900,000	2,596,000	
End-Jun 2013	Livestock Value (Camel at Rs 40,000/Unit)	1,000,000	40,000	
	Less: Nisaab Amount (P_{MNA} x MNA)		492,204	
	Net Amount Subject to Zakat		24,097,521	
	Total Wealth Zakat			602,438

Estimation of Zakat – Classical Approach

Report Date	Category	Quantity	Amount (Mln Rs.)	Zakat Collectible (Mln Rs.)
	Total Wealth Zakat			602,438
	Zakat on Produce			
End-Jun 2013	Produce on Rain-fed Land		780,904	78,090
End-Jun 2013	Produce on Irrigated Land		2,342,711	117,136
	Total Zakat Collection by Classical Method			797,664
End-Jun 2013	Import Duty on Tariff		4,481,560	427,092
	Total Zakat Collection by Classical Method & Import Tariff			1,224,756

Estimation of Zakat – Proposed Approach

- Financial instruments are regarded as means of earning income and hence income is subject to 10% (Ushr). Ushr is applied since such income for the owner is non-labor income.

- The weighted average deposit rate of 5.96% is used from the data provided by SBP. Hence, we apply Ushr on this average yearly return.

- Average yearly growth in KSE 100 index value has been around 20% during 1998-2013. Hence, we apply Ushr on this average yearly return.

Estimation of Zakat – Proposed Approach

- Since mutual funds try to have diversified portfolio with income and equity financial securities, we apply Ushr on average return on KSE 100 and weighted average deposit rate.

- Since NSS are usually long term savings instruments. We apply Ushr on an average assumed return of 10% on NSS securities.

Estimation of Zakat – Proposed Approach

Report Date	Category	Quantity	Amount (Mln Rs.)	Zakat Collectible (Mln Rs.)
	Zakat on Wealth			
Estimated	Gold		2,778,707	
End-Jun 2013	Currency in Circulation		1,938,222	
14-Mar-14	Foreign Exchange Reserves		964,000	
End Jun 2013	Changes in Stocks/Inventories		366,545	
End-Jun 2013	Livestock (Cattle at Rs 40,000/Unit)	38,300,000	1,532,000	
End-Jun 2013	Livestock (Buffalo at Rs 40,000/Unit)	33,700,000	1,348,000	
End-Jun 2013	Livestock Value (Sheep at Rs 10,000/Unit)	28,800,000	1,152,000	
End-Jun 2013	Livestock Value (Goat at Rs 10,000/Unit)	64,900,000	2,596,000	
End-Jun 2013	Livestock (Camel at Rs 40,000/Unit)	1,000,000	40,000	
	Less: Nisaab Amount (P_{MNA} x MNA)		492,204	
	Net Amount Subject to Zakat		12,223,270	
	Total Wealth Zakat			305,582

Estimation of Zakat – Proposed Approach

Report Date	Category	Amount (Mln Rs.)	Zakat Collectible (Mln Rs.)
	Zakat on Income/Production		
	Ushr		
End-Feb 2014	Deposits in Personal Category	3,516,096	20,956
18-Mar-14	KSE Market Capitalization	6,557,000	131,140
18-Mar-14	AUM in Open End Funds	378,187	4,916
18-Mar-14	AUM in Closed End Funds	19,894	259
18-Mar-14	AUM in Pension Schemes	6,275	82
End-Jun 2012	Outstanding Amount in NSS	2,011,263	20,113
End-Jun 2013	Produce on Rain-fed Land	780,904	78,090
	Total Ushr		255,556
	Khamsa		
End-Jun 2013	Produce on Irrigated Land	2,342,711	117,136
End-Jun 2013	5% Production Levy on Industry	4,605,762	230,288
End-Jun 2013	5% Production Levy on Services	13,054,909	652,745
	Total Khamsa		1,000,169
	Total Zakat Collection		1,561,307
End-Jun 2013	Import Duty on Tariff	4,481,560	427,092
Total Zakat Collection & Import Tariffs			1,988,399

Comparison with Adam Smith's Cannons of Taxation

- A proportional tax.
- It does not tax production heavily (i.e. lenient tax rates).
- Tax rates are known and fixed. Hence, Ricardian Equivalence (RE) holds.
- It only taxes those who have the ability to pay
  - Poor with wealth below Nisaab are exempted.
  - Non earning persons are exempted.

Economic Effects of Zakat

- Proportional Zakat linked with income acts as an automatic stabilizer.
- If PDI increases, more Zakat is collected and vice versa.
- Zakat on wealth redistributes wealth too independently of business cycles and help stabilize the extremes of business cycles.
- Transfer payments to unemployed, poor, needy, debtors etc will continue even when the economy faces a recession.

Economic Effects of Zakat

- A consistent and credible low tax rate policy with broader Zakat base will ensure:
  - Minimizing distortions , i.e. RE and no policy reversals.
  - Boost aggregate demand since MPC is higher for poor.
  - Encourage investment due to lower taxes *(Supply side economics)* and disincentive for wealth accumulation since:
    - No fixed return on accumulated wealth (interest free economy).
    - Zakat on idle accumulated wealth.
  - Competitiveness in markets.

Economic Effects of Zakat

- In the proposed approach, if RoI is below 25%, less Zakat is to be paid in monetary terms as compared to wealth Zakat in classical approach.

Value of Stock of Company A at t_0 : Rs. 100
Stock Prices increase at t_1 by 10%: Rs. 110

If no investment in stock or other assets : Rs. 2.5
If stock sold at t_1, 10% tax on Gain on Sale : Rs. 1

Net Tax Gain: Rs. 1.5

Economic Effects of Zakat

- **Illustration:** If DY is 10%, less Zakat is paid in proposed approach as compared to wealth Zakat in classical approach. It shows that investment is encouraged rather than keeping wealth idle.

Value of Stock of Company A at t_0 : Rs. 100
Company A is profitable & pays 10% dividend

If no investment in stock or other assets	: Rs. 2.5
If stock kept at t_1, 10% tax on Dividend	: Rs. 1

Net Tax Gain: Rs. 1.5

For Feedback & Comments

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