आपूर्ति

2013

"Knowledge is power. Information is liberating. Education is the premise of progress, in every society, in every family."

- *Kofi Annan*

Arthashastra, The Economics Society of Miranda House

HEAD OF DEPARTMENT'S NOTE

The response we got for Aapoorti, 2012 has encouraged us to be more ambitious and take a leap forward. This year, the journal, which is a product entirely of the efforts of students, has not only continued its outreach outside Miranda House with articles from Lady Shri Ram College for Women, Indraprastha College, Department of East Asian Studies, Delhi University, but also outside Delhi University like Jadavpur University and Presidency University, Kolkata. We continued to reach out to students from the sub-continent with contributions from the Lahore School of Management Studies, Pakistan. This year we have moved a step ahead and included conversations with two eminent economists who are at the helm of policy making - Dr. C. Rangarajan and Dr. Isher Judge Ahluwalia. Our students have been reading their articles as part of the undergraduate courses; to be able to have a face-to-face conversation with them and bring to our readers their thoughts is clearly an exhilarating experience for such young and enquiring minds.

The distinctive feature of this year's presentation is the diversity of topics that have been included and the clarity with which they have been categorized. Although there is a major preoccupation with analyzing what is going on within the country ranging from the hotly debated issue of cash transfers to rural credit and relevance of cooperatives, the international economy also finds its due recognition. Whether it is the contribution on the macroeconomic comparison of India and China or the strategic implications of Obama's second term for India, all the articles reflect the concern students have about the present international political and economic environment. The interesting inclusion "Unconventionally Yours" has continued in this year's Aapoorti, showing that students are able to apply their understanding of economics to new areas and widen the frontiers of enquiry. A new section on "Green Economics" has been added this year. The concerns are not confined to the realm of what is sometimes called "an economic issue" but encompass political, social, psychological aspects so intimately inter-wined that one cannot really term this journal as a strictly economics one. We would be happy if students from other disciplines also start taking an interest in our effort and then we can put together a truly inter-disciplinary perspective on the important issues of the day.

It is indeed an experience to be able to witness the enormous energy and enthusiasm among the students. Undaunted by the pace of their exam schedule, they continue to find ways to participate in events outside college,

delve deep into current issues, armed with the tools they are learning and finally through their superb co-ordination are able to bring to the readers such a well-compiled collection. I congratulate the entire editorial team, Vatsala, Bhavyaa, Aditi, Amrita, Deeksha, Stuti and Swaril for their excellent work showing their ability not only to carry forward the standards their seniors have set for them but also to move towards higher levels of excellence. We are fortunate to have the support of our principal, Dr. Pratibha Jolly, who encourages us to forge ahead and not let any constraints stop us from reaching our potential.

Malabika Pal
Teacher-in-Charge, Department of Economics
Miranda House, University of Delhi, Delhi.

ACKNOWLEDGMENT

We are highly indebted to the faculty of the Economics Department, Miranda House for the immense support provided to us in the making of the journal. Our special thanks to Mrs. Malabika Pal, the head of the department, for extending financial and motivational support. We are grateful to authors from and outside Miranda House who made this edition of the journal possible. We are thankful to Sijya Gupta of NID, for her indispensable contribution towards the cover page and to Manisha Jain who was of immense help in getting remarkable articles from undergraduate economics students not only from India but other South-Asian countries, such as Pakistan. We are grateful to Dr. C Rangarajan and Dr. Isher Judge Ahluwalia for lending us time out of their busy schedules. We also thank the Arthashastra president, Natasha Sahoo and her team.

Most importantly we are highly grateful to our principal Dr. Pratibha Jolly for always being encouraging and lending support.

To others without whom the journal would not have materialized, we extend our sincere gratitude.

Editorial Team, Aapoorti

EDITOR'S NOTE

"Choose a job you love, and you will never have to work a day in your life"

This quote by Confucius accurately describes our journey with Aapoorti. When we were handed over the responsibility of compiling the third edition of Aapoorti at the beginning of the year, the task at hand seemed intimidating yet quite exciting. Intimidating because the bar was set at a very high level by the second edition of the journal and exciting because the process of compiling the journal presented us with an unparalleled learning opportunity. Our experience as chief editors has been everything that we expected it to be and more. We have thoroughly enjoyed the responsibilities given to us and have tried to fulfil them in the best possible way.

Apart from giving our readers an opportunity to become acquainted with the ideas of undergraduate students of economics from all over the country as well as from outside the country; this year's edition of Aapoorti gives its readers a peek into a wide range of topics in economics. The editorial board, after much deliberation, decided to do a detailed analysis of commodity taxes. This seemed to be a very pertinent topic at this point in time because there has been widespread concern over the rising fiscal deficit in the country and it is essential for us to revisit existing tax structures and taxable commodities, as well as explore new avenues for revenue generation. This section is intended to give the readers an insight into how consumers actually respond to commodity taxes and whether taxing the 'traditional' commodities is actually beneficial to the exchequer. There is also a focus on environmental economics and themes ranging from Green GDP and accounting to Green trade and commerce are explored. We believe that it is crucial to analyze ways in which economics can be made compatible with the environment and it is time to look beyond the conventional economy versus environment debate. Economics, as a discipline, cannot exist in isolation and the repercussions of economic activities on the environment must be taken into account by economists. This section is intended to make the readers aware of the interlinkages between economics and environment and how much greater attention needs to be paid to this issue.

This time, we have moved a step forward by including interviews with two eminent economists. It was a unique experience to interact with the greats of our field and we feel fortunate to able to present their views to our readers. As we have a long way to go in terms of knowing the depths of economics and our knowledge is restricted to the undergraduate level, any error on our part should be forgiven. We have had an enriching and enjoyable experience working for the journal and we sincerely hope the readers have the same experience reading it.

Vatsala Shreeti & Bhavyaa Sharma
(Chief Editors)

TABLE OF CONTENTS

Indianomics

S. No.	Article	Author	Pg. No
1.	Rural Credit Constraints in India	Bhavyaa Sharma	7
2.	A Tale of Two Transfers	Parnika Dar, Upasana Majumdar	9
3.	Indirect Taxation in India: GST, a must needed switch	Shivani Jain	13
4.	FDI in retail: Boon or Bane	Gaganjyot Kaur Narwal	15
5.	Understanding Direct Cash Transfers	Aditi Singh	17
6.	Rural-Urban Migration and Issues in Urbanization	Vatsala Shreeti	20
7.	The Importance of Cooperatives	Swaril Dania	22

World Affairs

8.	The pitfalls of generalized generosity	Sanchi Shaante	25
9.	Sovereign Wealth Funds	Sakshi Verma	28
10.	China and India: A macroeconomic comparison	Raj Hans	31
11.	Diminishing Relevance of WTO: structural or functional?	Deeksha Trehan	34
12.	Indo-American Economic Relations and the Impact of Obama's Second Term	Stuti Oberoi	36

In conversation with

13.	Dr. C. Rangarajan	Editorial Board	40
14.	Dr. Isher Ahluwalia	Editorial Board	43

Unconventionally Yours

S. No.	Article	Author	Pg. No.
15.	Stirring the Pot	Surbhi Bhatia	47
16.	I predict a riot	Sonali Chowdhry	48
17.	Understanding 'Gangnam Style': Economics Style	Mahima Malik	50
18.	Applying Feminist Economics to the Education Sector	Amrita Garai	51

From the Editors' Desk

19.	Taxes on Alcohol and Cigarettes	Aditi Singh and Deeksha Trehan	54
20.	Taxes on Petroleum and Plastic Bags	Stuti Oberoi and Amrita Garai	57
21.	Carbon Taxes	Bhavyaa Sharma and Vatsala Shreeti	60

Thinking Seeds: Green Economics

22.	Green Trade and Commerce	Manisha Jain	63
23.	Green accounting and GDP	Soumya Bhowmick	66
24.	Mitigation of Climate Change: A game theoretical approach	Osama Safeer	68
25.	Environmental Policies: A problem of Stragetic and Coordinated Implementation	Shomak Chakrabarty	72
26.	Plugging the demand supply gap Power Sector	Charvi Kain	78

INDIANOMICS

Rural Credit Constraints in India

Bhavyaa Sharma

As a developing economy, India faces several challenges to its growth, and the analysis of all of these is pertinent, particularly in the current scenario where headwinds from the financial crisis in the developed world have lead to a slowdown in the growth rates at home. India being an agrarian country, Rural Finance is of immense importance to the growth story. However, constraints to the provision of the same have led to stagnation in the agricultural growth, especially in the post-reform period.

Issues concerning the availability of credit to the rural poor are limited participation of the poor in the formal sector and considerable inequality in the distribution of formal credit. Credit loans have been predominantly made to wealthier farmers, while the small farmers have been rationed out of the credit market. Historical evidence suggests that repayment of "prior debts" was by far the single most significant motivation for borrowing in the earlier periods. Rates of interest were generally higher for the poorer cultivators, partly because they made greater resort to grain loans and also reflecting their generally more vulnerable position. "Real" rates of interest, historically, have not just been the rate charged but they were also hidden in the lower price paid for the products sold, exploitative wage rates and rents charged for land leased. Although the share of "usurious" sources of rural credit fell steeply in 1951-1991, the post reform period saw the return of the rural moneylender as one of the primary sources of the same. The share of the marginal farmers in disbursement of short and long term loans by the SCBs has witnessed a steep decline, evidencing the fact that left to itself, the formal sector will exclude the rural sector, particularly the rural poor. The main activity with which commercial bank credit was associated with was financing agro-processing firms and purchase bonds floated by land development banks. This could be attributed to the informational advantage about the rural borrowers that moneylenders have over the formal institutions as well as the lack of availability of collateral with the marginal and small farmers. Given that the interest rates are on a rise, the worst affected have been the rural poor. One also notices informal credit transactions occurring among people of a specific social group or the moneylenders charging differential rates of interests from people belonging to different social and economic backgrounds (segmentation). Formal sources of credit are cheaper across all areas as compared to the informal credit sources, with interest rates charged by private lenders being as high as 300% per annum, despite which the formal sector default rates are comparatively much higher. However, studies suggest lack of participation in the formal credit market on the part of the rural borrowers, which can be traced to the differences in reservation costs of obtaining informal credit vis-à-vis formal credit. India's Co-operative Credit Structure covers directly or indirectly, nearly half of India's total population. However, the concept of mutuality between savings and credit functions has been missing.

There may be several reasons why people borrow from village lenders, despite the fact that they charge exorbitant interest rates.

Due to lack of information about the borrowers as well as the inability to accept collateral in exotic forms, institutional lenders usually discriminate against poor borrowers since their richer counterparts can repay in almost all contingencies, resulting in credit rationing. Poorer borrowers may also be reluctant to borrow from formal sources out of the fear of being cheated or sanctioned in the event of non-repayment. High interest rates may not necessarily be a result of monopoly of the lender over his clientele, instead, the risk of involuntary and strategic default and weak enforcement machinery can drive up the rates to the aforementioned levels.

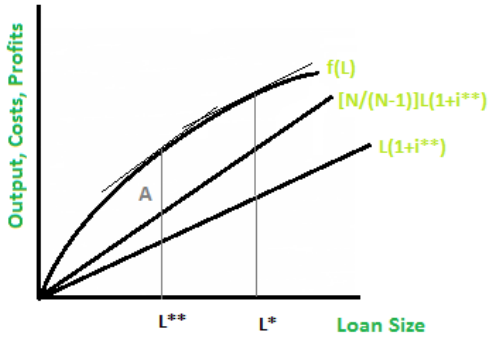
The figure given below explains credit rationing in the face of possibilities of defaults. L is the loan size and f(L) is the production function describing the value of output for every loan size L. Now, we assume that the farmer can have access to a net profit of A by borrowing elsewhere. Hence, to make the farmer participate at some interest rate i and some loan size L:

$$f(L) - L(1+i) \geq A$$

in which case, the optimal loan amount would be L*. Now, if the farmer's mental horizon is of N dates, he gets N[f(L) – L(1+i)] over the entire N if he doesn't default in any period. If he decides to default, he will get all of f(L). But next period onwards, he will be excluded by the moneylender and would be able to earn only A per period. So for default not to occur:

$$f(L) - \frac{N}{N-1}L(1+i) \geq A$$

The cost line is now modified for the farmer from to $L(1+i)$ to $\frac{N}{N-1}L(1+i)$. Simple optimization yields the optimal loan size as L** (such that L**<L*) and the corresponding interest rate as i^{**}.



This fear of default also creates a tendency to ask for collateral, which can take several forms [e.g. Ration cards in Kerala (Kurup, 1976)]. In case the collateral is of a higher value to the lender than the principal itself, the debt contract maybe written in a way so as to induce the borrower to default, which explains extensive landholdings of some landowners in rural India as well as the persistence of bonded labour till date. It is the fear of a default and the unfeasibility of charging a higher interest rate as well as information asymmetries regarding the "good" and the "bad risks" that the equilibrium in the informal market is thrown to 'Credit Rationing', leading to inadequacy of credit.

Interlinkages between credit and other markets is also an important characteristic of rural credit markets in India and are reflected in the coincidence of credit relations with other economic relations viz. trader-cultivator, landlord-tenant etc. The rationale for interlinked markets is lowering of transaction as well as monitoring costs. It becomes even stronger where law or custom restricts certain contractual arrangements. Interlinkage may be used in many cases to counteract the distortion in loan amounts and is often achieved by charging a rate of interest that is not too high or even equivalent to the

formal rate of interest and paying a wage rate or output price that is lower than the market rates.

In order to tackle these constraints, policies should be implemented in the right direction. SHGs should be induced to enter matured levels of enterprise and factor in livelihood diversification in order to ensure that their members are not dependent on informal sources of credit for their financial and non financial needs. There is a scope of increasing credit disbursals on the part of the public lending institutions through policies, innovations and techniques that enable correct identification of viable borrowers. Effective policy interventions in other markets can increase the size of asset holdings with borrowers, thus increasing their access to formal credit sources. As of now, RBI's actions have been effective to a very large extent in purveying credit in the rural sector through regulations pertaining to priority sector lending and opening branches in rural areas. However, Co-operative banks and credit societies as well as RRBs need to shift their focus primarily towards the poorest of the poor rather than just looking broadly at the rural sector. Policies should be initiated in order to incentivise lending to the marginal and small farmers to a greater extent by formal institutions. At the same time, policies like concessional credit rates should be reconsidered since they distort socially optimal loan decisions. Microfinance Institutions developed on the lines of Grameen Bank, which promote group lending can be another possible solution. Credit rationing theory implies that under a policy of no restrictions on interest rates and in a competitive environment, credit will be rationed. Thus any intervention in the market other than to alleviate informational constraints will do more harm than good. A new theory of incentives and monitoring embedded within the actual operational framework of India's lending institutions might be more appropriate for analysing and designing corrective mechanisms.

References:

1. *Dreze, Jean, P. Lanjouw and Naresh Sharma (September 1997), Credit in Rural India: A Case Study, STICERD.*
2. *Shah, Mihir, R. Rao and P.S. Vijay Shankar (2007), Rural Credit in 20th Century India: Overview of History and Perspectives, Economic and Political Weekly, April 14, 2007.*
3. *Kochar, Anjini (1997), An empirical investigation of rationing constraints in rural credit markets in India, Journal of Development Economics, Vol. 53, pp 339-371.*
4. *Braverman, Avishay and J.L. Guasch , Rural Credit Markets and Institutions in Developing Countries: Lessons for policy analysis from practice and modern theory, World Development, Vol.14, No.10/11, pp. 1253-1267, 1986.*

A Tale of Two Transfers

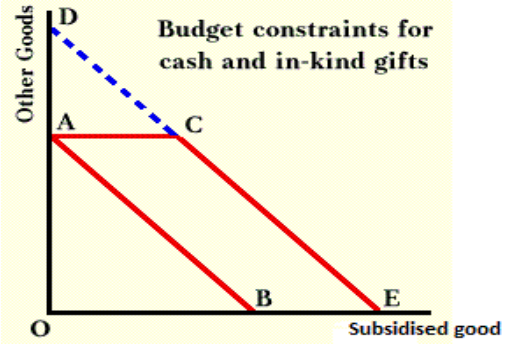
Parnika Dar and Upasana Majumdar

A transfer payment (or government transfer) is a redistribution of income in the market system. These payments are considered to be exhaustive because they do not directly absorb resources or create output. Examples of certain transfer payments include those for welfare (financial aid), social security, and subsidies given by the government.

Recent months have witnessed a spurt in discussions on cash transfers as an instrument for delivering social security in India. The dominant view is advocating a transition to cash transfers from existing regimes, be it as a replacement for the public distribution system (PDS) or administered pricing for select fertilisers. This transition to cash transfers is plagued by financial inclusion and availability of information technology infrastructure constraints. Also, it would be imprudent to ignore the success of in-kind transfer scheme like PDS in Tamil Nadu and Chattisgarh.

Transfer programmes in developing countries are constrained by three factors: financial resources, institutional capacity and ideology. Governments in poor countries are highly limited in the amount they can invest in transfers and the money required to ensure that the programmes are effective. The amount invested is influenced by 'value for money or the commodity in question' considerations, as well as by political and ideological concerns regarding 'free handouts' and 'creating dependency'.

A central question in anti-poverty policy is whether transfers should be made in kind or cash. The potential benefits of in-kind transfers are weighed against the fact that cash transfers typically have lower administrative costs and give recipients greater freedom over their consumption. Simple economics clearly states cash is better for welfare. Cash raises the budget constraint leading to higher indifference curves (as shown in the figure). With an in-kind transfer, however, you (potentially) impose a constraint on the basket of goods, thus (potentially) reducing the utility compared to the cash case.



Another potentially important but less discussed aspect of this policy trade-off is the effect that In-kind and cash transfers have on local prices. Cash transfers increase the demand for normal goods, and if supply is not perfectly elastic, prices of these goods should rise. In-kind transfers have a corresponding cash value, so they similarly shift demand through an income effect. But, in addition, an in-kind transfer program increases local supply. If the government injects supply into a partially-closed economy (e.g., a village), then relative to cash transfers, local prices should fall when transfers are provided in-kind.

Price effects of transfer programs are likely to be most pronounced when, first, the size of the individual transfer is large; second, there is high program enrolment within a community; and third, the economy is not fully integrated with the outside economy so local supply and demand determine prices.

Price effect of cash transfers should be positive for normal goods since the income effect shifts the demand curve outward. The supply effect of an in-kind transfer is the change in prices caused by the influx of goods into the local economy. This supply effect should cause a decline in prices. Goods that are not part of the transfer program are also subject to pecuniary effects. The supply influx from the in-kind transfer should lower the demand and prices for goods that are substitutes of the in-kind items.

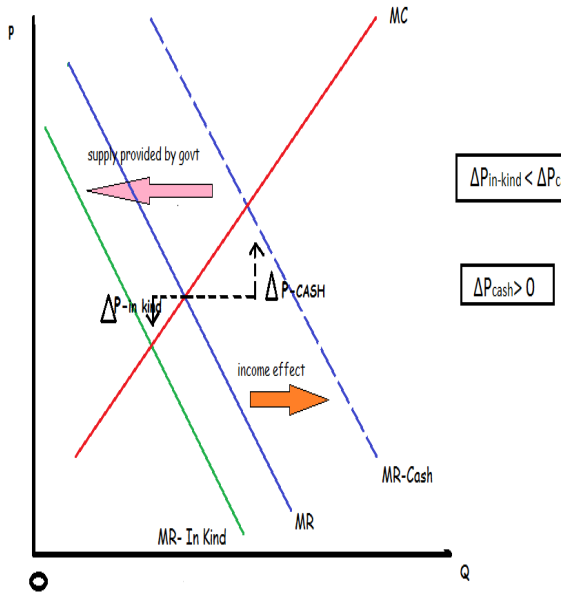
In the empirical application, an economy is an Indian village, and the main goods that are examined are food grains. The local suppliers are shopkeepers in the village, and they procure the items from outside the village. A positively sloped supply curve implies increasing marginal costs.

In effect, we assume that for local suppliers, procuring more supply entails increasing marginal costs, at least in the short- run. A high transportation cost to other markets is one reason that inventory in local stores is unlikely to adjust instantaneously. To meet higher demand, a shopkeeper in a remote village might need to travel to a neighbouring village to buy supply from a shop there. In the long run, one might expect the supply curve to be flatter.

Figure 1 depicts the market for a normal good in a village. The demand curve represents the aggregate demand faced by local suppliers. The figure shows, first, the effect of a cash transfer. The demand curve shifts to the right via an income effect, and the equilibrium price, p, increases. Denoting the amount of money transferred in cash by X cash, our first prediction is that a cash transfer will cause prices to rise. In-kind transfers also generate an income effect, so demand will again shift to the right. Here, the in-kind transfer amount X-In Kind is defined in terms of its equivalent cash value. Thus the demand shift caused by a transfer amount X is by definition the same for either form of transfer.

With an in-kind transfer, however, some of consumers' demand is now provided to them for free by the government, so the residual demand facing local suppliers shifts to the left by the amount provided in kind. While the net price effect of an in-kind transfer relative to the original market equilibrium is, in general, theoretically ambiguous, one can sign the price effect of in-kind transfers relative to cash transfers. For transferred goods, the price should be lower under in-kind transfers. Government transfer programmes often inject a large quantity of goods or services or cash into a community. Through these shifts in supply and demand, transfer programs could have quantitatively important price effects.

Here, two main predictions are tested; first, that cash transfers should lead to price inflation and second, that prices should fall under in-kind transfers relative to cash transfers. There is no strong evidence for the first hypothesis, though the point estimates generally match the prediction. There is robust evidence in support of the second hypothesis. Prices are significantly lower with in kind transfers than cash transfers. The transfer programme injects a large quantity of food or cash into these villages. This finding suggests that in most settings, price effects will have quite negligible consequences for policy decisions. The hypothesis is that price effects are bigger in more physically remote areas, where the markets are less tied to world prices and there is less product market competition. Moreover, in remote villages, the price effects estimated are economically significant. While these explanations cannot be tested decisively, there is suggestive evidence that imperfect competition is part of the explanation. Even if marginal costs are flat in the long run, with imperfect competition there could be long-run price effects of in-kind transfers since the residual demand facing local suppliers would be permanently lower.



The dearth of supply-side competition in remote markets suggests then when the government acts as a supplier and provides in-kind transfers; it may not only be creating a monetary externality but also reducing the inefficiency associated with imperfect competition.

An In-kind transfer leads to an increase in the demand facing the local suppliers, due to the income effect of the transfer, which is offset by an increase in supply due to an injection on the government's part. The net effect is that the marginal revenue curve shifts from MR to MR – in kind. A cash transfer has only the income effect, and the marginal revenue curve shifts to MR - cash. Social programs are often targeted, and in the presence of imperfect information for recipient identification, offering in-kind transfers leads to self-selection. For example, only needy people will show up at a soup kitchen or health clinic providing free services. Of course, some needy people may be erroneously screened out. Note, however, that targeting does not necessarily imply overprovision of in-kind goods like paternalism does.

Cash transfers do not encourage poor people to do something about their future, as future cash payment depend on them being poor. Providing in-kind transfers takes care of this problem by forcing them into consuming goods that will help them out (education, health screening, etc.). Moreover, the voters prefer to bestow on the poor, benefits-in-kind rather than cash transfers. For example, a coronary artery bypass graft (CABG) can easily cost the equivalent of a fully loaded Mercedes Benz E- 350 with GPS and a six-deck CD player. Taxpayers do buy such medical procedures for fellow countrymen in countries like USA with few questions asked. Can we imagine taxpayers voting for handing out the equivalent amount in cash to the stricken poor?

Another important consideration is how efficiently the government can provide supply. Reforms; like taking away the ownership of all the PDS shops from private businessmen and giving it to local community-owned bodies like forest co-operatives employing tribals, gram panchayats (village councils) and women self-help groups, increasing the commission to PDS shop owners, online monitoring of PDS operations as implemented successfully in Chattisgarh; are helpful. Also, cash transfers are obviously less effective in periods of rising prices of essential goods and services. In situations of volatile and rising prices in the deregulated markets, the real value of cash transfers can get quickly eroded, and the systems of price indexation of such transfers are typically slow, insensitive and inadequate to cover the price increases.

The cash transfers cannot be a solution to the problem of persistent poverty, simply because they do not in any way address the basic causes of poverty. The poor are defined not just by low income but more fundamentally by their lack of assets, which in turn is related to the concentration of assets somewhere else in the same society.

The bank account is the most important criterion for the cash transfers to work. But only 40% of India's population has bank accounts. The other pillar that the cash transfer scheme leans heavily on is the UID. The implementation of UID has been cumbersome - getting banks to rural areas and sensitizing administrators working at the grassroots level have been some of the challenges. So far, about 21 crore Aadhaar numbers have been created. This is less than a third of the number of people targeted under the cash transfer scheme. Thus, financial inclusion and availability of information technology infrastructure are preconditions to cash transfer and there are substantial problems in the state on both accounts.

To sum up, we see that in-kind transfers do not raise prices like cash transfers, and are also expected to be compatible with the social security expectations of tax-payers, as illustrated by the heart operation and Mercedes example cited above. Cash transfers cannot and should not replace the public provision of essential goods and services, but rather only supplement them. They cannot be considered as panacea for evils like poverty, low incomes etc. In other words, cash transfers are desirable and can play a positive redistributive role if they are additional to other basic goods and services, provided in-kind to the needy.

References

1. *WORLD BANK (1994): World Development Report 1994: Infrastructure for Development. Oxford University Press for The International Bank for Reconstruction and Development, New York.*
2. *WORLD FOOD PROGRAMME (2011): "Cash and Vouchers: An Innovative Way to Fight Hunger," News release*
3. *BEARSE, P. M., G. GLOMM, AND E. JANEBA (2000): "Why Poor Countries Rely Mostly on Redistribution In-Kind," Journal of Public Economics, 75(3), 463–481.*
4. *IFAD (2010): "Rural Poverty Report 2011," International Fund for Agricultural Development Policy Report.*
5. *NICHOLS, A. L., AND R. J. ZECKHAUSER (1982): "Targeting Transfers through Restrictions on Recipients," American Economic Review, 72(2), 372–77.*
6. *PEAR. (2003): "Welfare Spending Shows Huge Shift," New York Times, October 13.*
7. *Jesse M. Cunha, Giacomo De Giorgi, Seema Jayachandran(2011): "The Price Effects of cash versus in -kind transfers", NBER working paper no 17456.*

Indirect taxation in India: GST- a must needed switch

Shivani Jain

There is a saying in Kautilaya's Arthshastra, one of the earliest books on economics in the world, that the best taxation regime is the one which is "liberal in assessment and ruthless in collection". The proposed GST (Goods and Service Tax) seems to be based on this very principle. Although there has been a lot of hype about the much needed change in the Indian indirect taxation system with an introduction of GST, its true relevance and salient features have not yet been highlighted.

In recent years, the Indian government has undertaken significant reforms in the indirect taxation system. This includes the initiation of a region-based and state-level VAT on goods. However, in order to remove barriers to inter-state trading and to attain a secured market for the activities related to services and goods, more reforms are needed. Some of the reforms that can be

introduced for a better indirect taxation system in India are:

- The serialized set of Indirect Taxes so far activated at the central and state levels should be amalgamated and treated as a single tax and should be neutral at all levels.
- The Central Sales Tax, which obstructs easy trading between different states, should be terminated in order to boost inter-state trade.

The Indian government has planned to activate a Goods and Services tax neutral at all levels in order to fulfill these objectives.

Goods and Services Tax is a broad based and a single comprehensive tax levied on goods and services consumed in an economy. In simple terms, GST may be defined as a tax on goods and services, which can be levied at each point of sale or provision of service, in which at the time of sale of goods or providing the services the seller or service provider may claim the input credit of tax which he has paid while purchasing the goods or procuring the service.

The government plans to introduce dual GST structure in India. Under dual GST, a Central Goods and Services Tax (CGST) and a State Goods and Services Tax (SGST) will be levied on the taxable value of a transaction. This dual structure will ensure a higher involvement from the states, and consequently their buy-in into the GST regime, thus facilitating smoother implementation. Both the tax components will be charged on the manufacturing cost. The government is deliberating on fixing the value of combined GST rate at the moment, which is expected to be between 14-16 per cent. After the combined GST rate is decided, the centre and the states will finalize the CGST and SGST rates. All kinds of goods and services, barring some exceptions, would be under the GST purview.

Salient Features of Proposed GST in India

1. Consistent with the federal structure of the country, the GST will have two components: one levied by the Centre (hereafter referred to as Central GST), and the other levied by the States (hereafter referred to as State GST). This dual GST model would be implemented through multiple statutes (one for CGST and SGST statute for every State). However, the basic features of law such as chargeability, definition of taxable event and taxable person, measure of levy including valuation provisions, basis of classification etc. would be uniform across these statutes as far as practicable.
2. The Central GST and the State GST would be applicable to all transactions of goods and services except the exempted goods and services.
3. Since the Central GST and State GST are to be treated separately, in general, taxes paid against the Central GST shall be allowed to be taken as input tax credit (ITC) for the Central GST and could be utilized only against the payment of Central GST. The same principle will be applicable for the State GST.
4. Cross utilisation of ITC between the Central GST and the State GST would, in general, not be allowed.
5. To the extent feasible, uniform procedure for collection of both Central GST and State GST would be prescribed in the respective legislation for Central GST and State GST.
6. The taxpayer would need to submit periodical returns to both the Central GST authority and to the concerned State GST authorities.

Benefits of Goods and Services Tax:

- Eliminates cascading effect of taxes across all supply chains by reducing cost of doing business and makes the economy competitive.
- Eliminates multiplicity of taxes, rates, exemptions and exceptions.
- Eliminates dual taxation of the same

transaction (e.g. VAT & Service tax on EPC (engineering, procurement and construction) contracts.

- Reduces cost of production.
- Achieves, uniformity of taxes across the territory, regardless of place of manufacture or distribution.
- Provides, greater certainty and transparency of taxes.
- Ensures tax compliance across the economy.

Need For Goods and Services Tax in India:
The introduction of the GST brings about a macroeconomic dividend as it reduces the overall incidence of indirect taxation and therefore the overall tax burden by removing the many distortionary features of the present sales tax system. There are four important macroeconomic channels through which this happens:
a) The failure to tax all goods and services distorts consumption decisions; GST reduces these distortions and enables all economic agents to respond more effectively to price signals.
b) The non-refundable taxation of capital goods discourages savings and investment and retards productivity growth. This is perhaps the most important gain through introduction of GST in an emerging economy like India.
c) For a given constellation of exchange rates and price levels, violation of the destination principle places local producers at a competitive disadvantage, relative to producers in other jurisdictions.
d) Differences in tax bases of different States and the Central government greatly increase costs of doing business. The GST based tax reform provides a real policy opportunity to do something about this problem without waiting for prior and sweeping political economy changes.

There has been a lot of controversy on implementing GST in India, one of the main reasons behind being the pivotal and a major change needed in the constitution written by our forefathers:
The Constitution provides for delineation of power to tax between the Centre and States. While the Centre is empowered to tax services and goods up to the production stage, the States have the power to tax sale of goods. The States do not have the powers to levy a tax on supply of services while the Centre does not have power to levy tax on the sale of goods. Moreover, the Constitution also does not empower the States to impose tax on imports. Therefore, it is essential to have Constitutional Amendments for empowering the Centre to levy tax on sale of goods and States for levy of service tax and tax on imports and other consequential issues. As part of the exercise on Constitutional Amendment, there would be a special attention to the formulation of a mechanism for upholding the need for a harmonious structure for GST along with the concern for the powers of the Centre and the States in a federal structure.

Despite the major hurdle mentioned above, GST is seen as the panacea for removing the ill-effects of the current indirect tax regime prevalent in the country. If adopted and implemented in its true spirit, GST may neutralize the existing problem of taxes being levied on top of taxes and would also help to spur the economic growth.

FDI in Retail: Boon or Bane

Ganganjyot Kaur Narwal

For some time now, India has been witnessing heated debates over allowing Foreign Direct Investment (FDI) in some more sectors. Most recently, allowing 51% foreign direct investment in multi-brand retail saw a huge uproar. It drew attention from almost all sections of the society. On one hand, FDI is believed to be a boost to economic growth, but on the other, apprehensions have surfaced emphasizing the loss of social welfare to small farmers and traders. To find a balanced solution to this issue, a deep understanding of the complex composition of the Indian economy is essential.

In simple terms, FDI is defined as the net cash flow of investments from overseas. United States of America is the highest recipient of these cash flows accounting to almost $194 Billion in 2010. China happens to be the second largest recipient with a total of $85 Billion. UNCTAD in its investment report classifies India as the second most important country in the world for FDI. Further analysis reveals that in a developing country, FDI can boost up an economy's GDP by 5% to 35%. India is one such country which can benefit tremendously from FDI. At present, India allows 100% FDI in areas like floriculture, horticulture, animal husbandry and services among others. However, the actual investment is a mere 32%. Industries such as mining of gold, silver and precious stone etc too have 100% FDI permissible. Asset reconstruction companies, among others, are some services with full FDI allowed. Atomic energy, real estate and tobacco etc are completely banned from any foreign investments.

The apprehensions over the credibility and functioning of FDI are rising as the government is becoming more and more liberal with its FDI policies. Unfortunately, not much can be concluded from the persistent debate about FDI because the debate itself is not pointed in the right direction.

Indian GDP consists of a 27% contribution from agriculture and rest 73% from services and industries. Demographic statistics suggest that the proportion of the population engaged in the agriculture sector is 60%. It is just the 40% in manufacturing and services which make the largest contribution to the GDP. Disproportionate contribution by agriculture is a proof of poor performance and low income generation in this sector. Indian agriculture is in jeopardy as even with a 100% FDI, there has hardly been any significant investment. Thus, the immediate focus of FDI policies must be agriculture and agriculture based industry.

Food production in India has increased tremendously over the years. The Indian food processing market is an assured source that can attract large scale investments. India has a wide ranging and extensive base for food processing industries. So far, 100% FDI policy has met with negligible success as the impetus for foreign companies has not been enough. The need of the hour is for policies to be framed and implemented in such a way that the potential of the agriculture sector can be put to best possible use.

Rapid urbanization, industrialization and fast changing lifestyles open vast potentialities for an increased demand for processed food. This industry already accounts for 32% of the country's total food market. Estimated to be almost $121 billion, it is definitely one of the largest industries in the country. FDI policies, if implemented in innovative ways, can help tap the potential of this market.

Certain factors such as a cheap labor force should be one of the greatest incentives given to the foreign companies for investment. Further, this will tremendously help the Indian workforce, which is needlessly engaged in agriculture, to disengage itself and turn to new avenues of employment.

Increased awareness about the need to incentivise India's food processing sector has led the ministry of Food Processing Industries to come up with policies such as Vision 2015, Mega Food parks and Agri-export zones. Such policies must focus on deriving investment from foreign resources. Kellogg's, Nestle, Heinz etc are some

existing companies in this sector. Entry of many more is needed.

Agriculture, being the largest sector (in terms of employment), is the key to success. Many areas such as irrigation and technological assistance for machinery, implements, and farm management need attention. Credit market hitches, disguised unemployment and risk bearing are some other loopholes that need to be fixed. For example, in the Indian context, underground water has been the major source of irrigation. Large exploitation of this source has led to a great fall in underground water resources. Foreign companies, if allowed to enter the arena of irrigation, can address issues of poor irrigation. Vast areas have inadequate facilities of irrigation and farmers' dependence on monsoons is a serious problem in the country. Construction of ponds, canals, reservoirs, etc will become easier and more efficient with Foreign Direct Investment. The methods of watering could be changed from flood to drip and sprinkling irrigation. Other services such as storage, procurement, etc will be better-planned and at the same time, will open new opportunities for jobs. Credit flows and risk sharing will be much better than at present.

U.S.A, the largest economy in the world, has approximately 60% of its FDI in food processing/convenience goods sector. This serves as an example for an agrarian economy like India to understand the growth potential bestowed within this sector. The terms and conditions of the FDI policies may be debated over in such a way that small farmers and traders benefit tremendously without jeopardizing the profits earned by overseas companies. A win-win situation can emerge provided the policies are framed in a desirable way.

Foreign Direct Investment has now become an essential domain in the Indian growth issue. In conclusion, Indians must shift away the focus of the current debate from the economic creditability of F.D.I to its orientation so that maximum benefits can be extracted.

Understanding Direct Cash Transfers

Aditi Singh

The newly launched Direct Cash (Benefits) Transfer (DCT) scheme has generated a lot of debate and this article aims to explore the pros and cons of it. Under this scheme, the government will transfer cash benefits directly to the bank accounts of identified beneficiaries. Initially, this scheme covers only scholarships, pensions and Mahatama Gandhi National Rural Employment Guarantee Act (MNREGA) wages. The identity of the person will be verified through the Unique Identification (UID) or Aadhaar cards.

To start with, let us examine the advantages of this scheme. First, direct cash transfers can be targeted unequivocally to the poor, which reduces the corruption caused due to the presence of middlemen. Second, the Aadhaar number will help to eliminate duplicate cards and cards for non-existent persons or ghost beneficiaries in schemes such as MNREGA. Third, DCT can plug leakages of the Public Distribution System (PDS) by reducing hoarding, black marketing and wastage. If the fair price shop dealers get the same price from their legitimate customers as from the black market, then there is no incentive to cheat. These three factors, together, lead to massive savings for the government. Even if these leakages are conservatively estimated

at less than 10% of the total subsidy bill, it amounts to a substantial annual sum, given the subsidy bill of about Rs 300,000 crore.

Another benefit is that unlike subsidies, direct cash transfers do not distort market prices. The scheme will also enhance the efficiency of welfare schemes. A big part of the inefficiency in government service delivery is due to the inability to authenticate the identity of individuals. The UID provides a platform amenable to technological innovations to resolve the numerous pinpricks that affect service delivery. The use of micro ATMs, for instance, can enable people (with a UID number) to open a bank account at their preferred kirana shop. Delhi started such a scheme, Saral Money, in December 2012, where merely stating your UID number suffices for know your customer norms. The Unique Identification Authority of India (UIDAI) transfers the relevant data to the bank branch concerned without losing time or depending on the kirana shop owner to use his discretion. This system can be a boon for the poor.

Additionally, such projects have often helped to build the state's legitimacy as programmes are targeted at marginalised groups and support their integration. Another boon is that because DCT will only compensate for a finite amount of resources consumed, it will encourage beneficiaries to reduce their usage of these resources. Furthermore, since cash transfers are regular (typically every month), so the poor can plan on them and include them in the household budget.

In the context of DCT, a recent study was conducted in Delhi by the India Development Foundation (IDF) on behalf of Self-Employed Women's Association (SEWA). Poor people in similar conditions were randomly divided into three groups. Group 1 got the cash transfer through a bank account that was opened for the woman in the household; their Below Poverty Line (BPL) cards were stamped by the Delhi government stating that they were not eligible to get anything from the PDS shops for one year from the date of the stamp. A bank account was opened for the women in Group 2, but no cash was given to them and they could use the BPL card in the PDS shop. Nothing was done for Group 3. The reason for creating Group 2 was to isolate the impact of the cash transfer from that of having a bank account.

The study does not find any evidence for the argument that with a direct subsidy, households would spend less on food and more on other things that could lead to a loss in nutrition with harmful long-term effects, especially on children. On the contrary, it finds that unconditional cash transfers provide opportunities for households to shift to other nutritious options in the non-cereal segment. What is remarkable, though, is that this increase in non-cereal food items is not compensated by a decrease in calorie intake from cereal food items.

An interesting effect of cash transfer on those who did not receive it was also observed. This is the spillover effect. In particular, it was found that the service quality of PDS shops improved over the period of the experiment, probably because they now faced competition from private shops. At the very least, the study suggests that there could be poor households that would prefer the cash transfer compared to the PDS and the objectives of the PDS would not be compromised.

Nevertheless, there has been a lot of opposition to the DCT scheme, mostly

pivoting around its implementation. A vast majority of beneficiaries still do not have the requisite bank accounts mapped with 12-digit Aadhaar numbers. There are also not enough bank branches to open accounts. Only 40% of India's population has bank accounts. Additionally, not all account holders have got passbooks. Banks have also been reluctant to come to rural areas because no-frills accounts in these areas do not fit in with their business model. For greater financial inclusion of the poor, orientation and acquaintance courses must be held to make the masses more familiar with banking terms and formalities. Several other technical and logistical difficulties have come to the fore in the various pilot projects launched. For example, in the case of those few people who have Aadhaar-linked accounts, often their fingerprints do not match when they try to get paid via the new micro ATMs. Banks are also not able to cope with the volume of transactions. They also have to face other problems like poor internet connectivity and power cuts. Concerns about the security and integrity of the cash-carrying banking correspondents have also been raised.

There may still be a serious problem of transition, especially if there is a time lag in opening an account in a bank to receive the cash transferred. If, meanwhile, the subsidised food disappears, the poor who fail to open an account adequately fast will lose doubly through not having the cash yet, and through the fact that others will have the cash to buy food which would keep the prices high. Moreover, under the previous system, in case the head of the household was sick, or disabled or unable to move due to old age or otherwise, he could send someone else to buy rations. Now however, to withdraw the cash subsidy, the account holder is required to be physically present at the bank, which has made it useless for old-age card holders as several bank branches are located 8-15 km from their villages.

Some fear that the scheme is likely to be misused by the government as a political gimmick. In addition, as giving money to the poor becomes easier, politicians might spend much more than necessary which would lead to a rising fiscal deficit. There are also concerns about the confidentiality of private data and the government's ability to misuse it to monitor individuals.

Interestingly, activists support DCT when it pertains to providing social security pensions, scholarships, and maternity entitlements. However, replacing subsidized food grains, kerosene, and fertilizers with direct cash transfers is being fought tooth and nail, especially in light of the express timelines laid out by the government. This is because independent studies reveal that government pilots for DCT scheme have been disasters. A case in point was the Kotkasim district (Rajasthan) pilot, conducted between 2011 and 2012, wherein the government tried to provide DCT to those eligible for subsidised kerosene. In one year, sales of kerosene fell by 80%. But far from being a result of efficient design, this was due to people either not getting their bank accounts in place or not getting the subsidy amount in their existing accounts. As a result, people stopped buying costly kerosene with no assurance of support. Noted economist John Drèze and his fellow activists call it ‘denial by design’. Also, it is still not advisable to replace subsidized food grains by cash because while the market price of food goes up instantaneously, the increased subsidy can happen only with a lag.

I would like to conclude by first recognising the fact that in a country as vast as India, any new programme is bound to face executional difficulties. But rejecting it simply because of the difficulties in implementation is wrong. There is no doubt that the DCT scheme is based on sound ideology. Hence, the need of the hour is to bring in this scheme in a proper manner which includes all the poor.

References

1. www.thehindu.com
2. http://www.business-standard.com/article/opinion/shubhashis-gangopadhyay-who-prefers-cash-transfers-113012600135_1.html
3. http://indiatoday.intoday.in/story/what-is-direct-cash-transfer/1/235028.html

Rural-Urban Migration and Issues in Urbanization

Vatsala Shreeti

The sharp U-turn of the Indian growth story has been the focus of economists, leaders and policy makers from all over the world recently. The country finally seems to be coming out of the much talked about 'policy paralysis.' While the focus had been on broad macroeconomic indicators such as interest rates and inflation among others, there is a parallel need to critically examine issues that will determine the long term course of India's development. Through this article, I attempt to examine one such issue, that of migration of labour from rural areas to urban areas and the urban poverty that is linked with it.

India is urbanizing at a very fast pace and in just over two decades, the urban population of the country is expected to almost double. This means that there will be immense pressure on existing cities in the future and a spurt in the growth of unplanned satellite cities. Without effective management of the entire process of urbanization, it is unrealistic to expect sustainable and inclusive development of the country. In order to analyze these issues in urbanization, it is essential to start by describing the nature of rural-urban migration and its causes.

Rural-Urban Migration

The theory of rural-urban migration is based on the Harris-Todaro model. The basic cause of migration, as identified by this model, is the wage differential between the urban formal sector and the rural agricultural sector of an economy. We divide the economy in two sectors: a traditional rural sector and an urban sector. The total labour force is divided between these two sectors. Wages in the formal sector tend to be higher due to a variety of reasons. This sector is usually unionized, subject to collective bargaining, pension schemes, minimum wage laws, etc which translates into a better bargaining position for workers and hence leads to higher wages. It may also be the case that firms in the formal sector deliberately pay higher wages (efficiency wages) in order to induce greater effort by workers and lower turnover rates. On the other hand, the traditional rural sector has lower wages which fluctuate according to demand and supply conditions. Migration from the rural sector to the urban sector is viewed as a result of this wage gap.

The problem arises when the urban formal sector lacks the capacity to absorb all the workers that migrate from the rural sector. The wage differential between the two sectors leads to a pool of unemployed

people in the urban sector. These unemployed workers cannot move back to the agricultural sector because this would reduce the wages in the agricultural sector even further hence increasing the incentive to migrate. This leads to a proportion of the migrated workers to work in the informal sector, where jobs are easy to find but pay very less. This informal economy thrives as it keeps the labour costs in the formal economy relatively low.

Unregulated economic activity in the informal sector is often one of the major challenges of urbanization. The informal sector forms the bulk of the urban poor. This sector is often associated with the congestion, pollution and crime rates that are characteristic of big cities. Additionally, the haphazard growth of this sector due to migration puts pressure on the existing infrastructure and administration. More importantly, wages in the informal sector are depressed and access to a better standard of living (which, paradoxically, is the rationale behind migration) is limited due to supply side constraints. This translates into rising economic inequality and fragmented development. One doesn't need to go too far to validate this; the co existence of slums in close proximity with plush shopping complexes in Delhi serves as a perfectly accurate example of how severe the challenges of urbanization are.

The growing urban population calls for policy action at two distinct levels. While there is a need to expand the absorption capacity of the urban formal sector, there is also a simultaneous need to manage our cities better.

The paradox of urban job creation

The most obvious way in which the problem of a largely unregulated informal sector can be addressed is by trying to accelerate the absorption of labour in the formal sector. This may be done either by incentivising businesses or by expanding the public sector. While this may lead to a temporary shrinkage of the informal sector, the expansion of the government sector will eventually lead to the rural-urban migration picking up again in response to new formal sector job opportunities. The initial 'soak-up effect' may be dominated by fresh migration in response to better job conditions in urban areas and paradoxically, the size of the informal sector may end up increasing once again (This phenomenon is known as the Todaro paradox). Physically restricting migration is unfeasible politically and ethically, however, this paradox can, in theory, be addressed by offering employers in the formal sector a subsidy for every unit of labour they hire. In this case, the employer pays the same wages, however, workers get a higher a wage and with a rise in the subsidy, formal sector demand for labour also rises. The problem with policies of this kind is that employment figures are difficult to verify. It is costly to determine the right amount of subsidy as this would involve verifying the veracity of each employer's employment data.

Management of the Urbanization Process

Since it is difficult and often unethical to restrict the migration from rural to urban areas, the focus should be on effective management of the process of urbanization. Policies should be targeted at alleviating large sections of the urban population from the abysmal conditions that they live in and ensure that cities can sustain such large numbers. Additionally, the focus should also be on creating more urban centres and relieving the pressure on existing ones like Delhi, Mumbai and Bangalore.

- The capacity of existing cities continues to be dismal. The High

powered expert committee report on urban infrastructure has recommended that a municipal cadre of officers trained in town planning be made. According to this report,

- As large scale public investment is required for the urbanization process to go on smoothly, revenue generation will have to be from within the cities. Additionally, cities will have to be able to raise debt funds through the market.
- The attitude of citizens towards migrants, especially from economically weaker sections of the society, is a cause of worry. It is essential to include citizens in the planning process and make them aware of the long term benefits of planning policies.
- The efficiency and execution of the service delivery process in cities need to be improved. Further, initiatives need to be taken by citizens themselves to ensure better standards of services and service delivery.

Integrated and sustainable urban development is the need of the hour and India has a long way to go in terms of addressing these issues in uneven development across space and inequality of opportunities across different sections of the society.

References
1. Ray, Debraj (1998): Development Economics
2. Themes from workshop on Urban Infrastructure and Service Delivery, IFMR Finance foundation& Centre for Development Finance
3. Mann, Preeti (2012): India in Transition; Urbanization, Migration and Exclusion in India, Centre for Advanced Study of India, University of Pennsylvania

The Relevance of Cooperatives

Swaril Dania

"Cooperatives are a reminder to the international community that it is possible to pursue both economic viability and social responsibility." –Ban Ki Moon, UN Secretary General

The year 2012 has been recognized by the United Nations as the international year of cooperatives (IYC), highlighting the contribution of cooperatives to socio-economic development. With its slogan "Cooperative enterprises build a better world" the initiative seeks to encourage the growth of cooperative organizations. But what exactly is a cooperative and how have they suddenly become so crucial in the present world?

According to the statement of ICA on cooperative identity, a cooperative may be defined as an autonomous association of people who voluntarily cooperate for their mutual, social, cultural and economic benefit. ICA or the International Cooperative Alliance is an independent nongovernmental organization with 277 member organizations from 98 countries which unites, represents and serves cooperatives worldwide. Founded in 1985, ICA today serves to be the major connecting tool between cooperatives across the globe.

Also, as a part of its statement on cooperative identity, it lays down seven principles that define cooperatives:

- Voluntary and open membership: Cooperatives are voluntary organizations open to all people

able to use their services and willing to accept the responsibilities of membership without gender, social, racial, political or religious discrimination.

- Democratic member control: Cooperatives are democratic organizations controlled by their members, who actively participate in settling their policies and making decisions. Men and women, as elected representatives, are accountable to membership. In primary cooperatives, members have equal voting rights and cooperatives at other levels are also organized in a democratic manner.
- Member economic participation: Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their cooperative, possibly by setting up their reserves, part of which would at least be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.
- Autonomy and independence: Cooperatives are autonomous, self help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.
- Education, training and information: Cooperatives provide education and training for their members, elected representatives, managers and employees so they can contribute effectively to the development of the cooperatives. They inform the general public particularly the young people and opinion leaders about the nature and benefits of co-operation.
- Cooperation among cooperatives: Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, regional, national and international structures.
- Concern for community: Cooperatives work for the sustainable development of the communities through policies approved by their members.

Indeed, the above stated principles highlight the regard for both economic viability and social responsibility in cooperative structures as has been stated by the UN Secretary General.

Together these principles guarantee the conditions under which members own, control and benefit from the business, ensure that they effectively contribute to the development of cooperative and to the sustainable development of their communities.

And hence, in today's era, where no one can escape globalization, these have a crucial role to play as they encourage self reliance and empower people by providing employment opportunities and securing the livelihoods of nearly a quarter of the world's population and thus help in poverty alleviation as well.

With the intensification of liberalization and globalization, cooperatives have become all the more important as tools that bridge the gap between market and human values. What makes these organizations so different from the others is their member

driven nature. Because cooperatives are business enterprises owned and controlled by the very people they serve, their decisions are balanced by pursuit of profit and the local interests. As the world becomes increasingly borderless and the advent of multinationals in the developing countries raises fears in the minds of small scale producers and workers, the role of the cooperatives becomes more and more significant. With no protectionist policies and opening up of markets by the government, cooperatives are an efficient way of organizing the small scale sector in the developing countries as these have immense potential to neutralize the adverse effects of globalization. Initially the idea of cooperatives in India emerged from the growing menace of rural indebtedness but over time it has come to occupy a central place in the measures to strengthen our economy.

Cooperatives are considered by some as an ideal model for local economic development because with local ownership and control and proportionate distribution of net profits among the members, it has the potential to foster economic growth at the regional and community level based on the spirit of cooperation that exists predominantly in the rural areas. They give a boost to the rural economy which is largely based on agriculture as they provide real economic benefits to farm families through increasing the stability of farming sector and by improving market access for their products. Often traditional companies find it very costly to provide services in the rural areas and there also the cooperative sector fares quite well as unlike the traditional profit seeking companies which anticipate unacceptable levels of economic return and hence do not venture into the areas, cooperative enterprises respond to the local needs and act as a provider of services such as electricity or management of water resources.

One of the major advantages of the cooperatives, due to the member owned nature, is that they meet community needs and objectives and place greater importance on them and have flexible profit objectives. Investor owned firms on the other hand have considerable pressure to raise profits and grow as fast as possible. Not only do the cooperatives add sustainability to the development, also as people pool their limited resources to achieve a goal they combine people, resources and capital into larger more viable and economically competitive units.

Moreover, they have certain financial advantages as well as they become eligible for loans and grants from various agencies. Cooperatives are stable employers and often they strive to find innovative ways to retain jobs ensuring job security. The democratic nature and values (self help, democracy, self responsibility, equality, equity and ethics) of the cooperative institutions allow the local people a voice in policy matters which gives a sense of empowerment to the people. Of late cooperatives have been associated with women empowerment as well as today one comes across various success stories of women organizing various cooperative ventures in countries like India and Nigeria and across the globe. They respond to both the practical and strategic needs of women and chart their route to economic political and social empowerment. As self help organizations they contribute to the eradication of poverty, stimulate the local economies, and enhance the social fabric of the communities. They generate employment and promise job security and better living standards for their members. By empowering marginalized sections of people, women and other socially

disadvantaged groups they encourage social integration and cohesion and perform a very important task of social development and fostering equality and peace building.

Despite challenges like mismanagement and manipulation in the affairs of elections to the governing body of the cooperative, excessive government interference, local politics, lack of awareness among members, inadequate promotion, restricted coverage and several other functional weaknesses like that of inadequacy of training personnel and lack of quality management; the inherent advantages of cooperative ventures have made it increasingly significant to promote the growth of these institutions.

In the words of Kofi Annan – "In an age where community involvement and partnerships with civil society are increasingly being recognized as indispensable, there is clearly a growing potential for cooperative development and renewal worldwide."

WORLD AFFAIRS

The Pitfalls of Generalized Generosity

Sanchi Shaante
Lady Shri Ram College, Delhi University

"Nay, be a Columbus to whole new continents and worlds within you, opening new channels, not of trade, but of thought."
- Henry David Thoreau

Let us suppose there are 2 ways of reaching one destination and let that destination be Ecoland. You are a trader who wants to sell silk to the free and prosperous dwellers of Ecoland. Most other traders are taking the first way – the road is a little rough in places and the fear of being looted by bandits is real, but they walk towards the checkpoint where they are all taxed equally and allowed entry. You are told you will be treated differently, even preferentially, because you are not free and prosperous. Thanking Ecolanders for their generosity, you take the second path. The road is rough, the bandits are at your heels but you manage to reach the checkpoint. The man at the checkpoint looks at the rolls of silk you are carrying and asks you if the silk was spun in the same place as the silkworms came from. You say no, silkworms are bred in a village adjacent to yours and the silk was spun in your village. He frowns and asks you how you have added value to the silk to make it more exquisite. You say you haven't because you don't have the embroidery machines. His frown deepens. He asks you if you provide 4 course meals, health insurance and tickets to local football matches to all employees. You say no. He denies you entry. You protest vehemently but he holds his ground. Dejected and angry, you head to the traders community centre in your village to tell the other traders suggest your experience. You suggest they establish trade links with neighboring villages instead of relying on Ecoland but the traders vote your proposal down in unison- the land of the free and prosperous holds exponential promise, they say. A few years later, you take the same path to Ecoland in hopes that the situation has changed. The road is rough and the bandits are at your heels. You reach the checkpoint and you are asked the same questions. You sigh in exasperation and ask the frowning man why there is a need to

have a second road at all. He scratches his head in confusion before smiling and saying "to make you free and prosperous." Extrapolating from this story, there is an immediate necessity to de-clutter the international trade regime from what I term *Institutional Layerism* – the systematic and continuous creation of international trade instruments with the prima facie aim of facilitating trade and trade led growth, but which in effect hinder trade because of their structural design. The Generalized System of Preferences (GSP) is one such institution. The GSP framework was premised upon the belief that preferential tariffs increase exports and speed up economic development in developing countries. Despite the best intentions at its conception, the GSP's obstructionist nature makes it grossly incapable of supporting trade in developing countries.

The need to establish a new world international trade policy offering tariff concessions to imports from low income countries on a non-reciprocal and non-discriminatory tenet was first discussed at the I U.N Conference on Trade and Development (UNCTAD) in 1964. Developing countries were voicing the need for a preferential tariff system to develop their infant industries (Graham 1998). Subsequently, the II U.N Conference on Trade and Development (UNCTAD) in 1968 established a preferential tariff system for low income countries with the aim of increasing their export earnings, promoting industrialization and speeding up economic growth. The Generalized System of Preferences (GSP) extended these tariff preferences to certain semi-manufactured and manufactured articles while applying Most Favoured Nation (MFN) duties on imports of other countries. This new trade "Marshall Plan" for low income countries was rooted in the idea of 'trade for aid', with the aim of supporting development, exports led growth and competitiveness, reduction of poverty and integration of developing economies in the international trade regime. The tariff arrangements within the GSP were to facilitate export diversification and thereon, free the beneficiaries from depending upon primary goods for trade. There is, however, a deep chasm between the GSP that was envisaged and the de facto GSP.

The GSP must be critiqued in context of its trade effects and systematic faults. The complexity of rules and the inbuilt provisions that restrict access to preferential tariffs have reduced the effectiveness of the GSP schemes as trade creating instruments. Firstly, Rules of Origin provisions, administrative regulations and compliance to technical standards impose undue costs on exporters in developing countries. Secondly, many low technology products which are of export interest to developing countries, built by unskilled/ semi-skilled workers, are excluded from most GST schemes. A case in point is the African Growth and Opportunity Act (AGOA) which was signed into US Law as Title 1 of the US Trade and Development Act on 18th May, 2000. This act offers increased preferential access for African exports to the United States of America. Mattoo, Roy and Subramanian (2002) found that barriers like restricted product coverage and the 'yarn forward' rule for textiles and apparel prevented a nearly fivefold impact on African exports. Since the production emphasis of GSPs is on manufactured products, primary products like semi processed agrarian goods that are of export interest to developing countries are excluded.

Thirdly, GSP donors negate the principle of non-reciprocity by imposing side conditions pertaining to human rights and labour standards which are more restrictive than

internationally recognized core labour rights. Such side conditions impose de facto reciprocity conditions on low income countries. Fourthly, preference margins and other GSP conditions are not binding and granting countries may alter conditions at will. In the absence of GATT's legal constraints, protectionist measures by granting countries dampen the export led growth that was envisaged at GSP's conception. Finally, preference margins of GSP beneficiaries decline in the long run because continuous trade liberalization of other industries, sectors and markets decrease their competitive advantage vis-à-vis non-GSP beneficiaries (Alexandraki and Lankes,2004).

While GSP was instituted to target low income countries, its design is more suited to higher income beneficiaries who are more industrialized and have better administrative institutions and infrastructure. Countries with such capacities are better able to comply with Rules of Origin provisions and are more equipped in meeting labour standards set by granting countries. Also, beneficiaries with better capacities will be less dependent on GSP exports and will be able to withstand shocks better. Herz and Wagner (2010)'s use the standard gravity model of bilateral trade to conclude that the overall effect of the GSP on the exports of beneficiary countries is negative. While exports of low income countries see a spurt in the short run, the medium-to-ling term effect is negative. Interestingly, they find that exports of GSP granting countries increase in the short run. This can be explained by the value addition requirements GSP granting countries demand from their beneficiaries. It is likely that low income countries import intermediate input factors from granting countries that use GSP provisions to strengthen their own export standing.

Ozden and Reinhardt (2004) highlight the underachieving nature of the GSP regime and its deviance from the core principles that led to its establishment in 1968. Their empirical findings indicate that countries that drop out of GSP programs move towards liberal policies faster as opposed to countries that remain on the GSP. Moreover, preferences may have restricted to sectors where developing countries do not have a comparative advantage, resulting in resources being misallocated. Countries having a distinct comparative advantage would have inevitably undertaken structural reforms to leverage on such an advantage. However, preferences may have stalled or delayed such reforms which would not be in the interest of beneficiary countries in the long run. While preferences can be altered at will of the granting countries, bound MFN tariffs cannot be altered at will. The MFN treatment is rooted certainty and stability while the non-guaranteed nature of GSP undermines any potential benefits to developing countries. To that end, I argue that the interests of developing countries would be served much better by the reciprocity based Most Favoured Nation clause as opposed to GSP preferences. While the former can be used as an obstructionist tool selectively, the latter has been designed as an obstructionist tool.

References

1. *Clarke, Don P. Trade versus Aid Distribution of Third World Development Assistance. Economic Development and Cultural Change, July,1991*

2. *Graham, Thomas. The U.S. Generalized System of Preferences*

for Developing Countries: International Innovation and the Art of the Possible. 1978.

3. *Herz, Bernhard & Marco Wagner. The Dark Side of the Generalized System of Preferences. German Council of Economic Experts, Working Paper 02/2010. February 2010*
4. *Katerina Alexandraki and Hans Peter Lankes. The Impact of Preference Erosion on Middle-Income Developing Countries. IMF Working Paper WP/04/169. September, 2004.*
5. *Mason, Amy. The Degeneralization of the Generalized System of Preferences (GSP): Questioning the Legitimacy of the U.S. GSP Duke Law Journal, Vol. 54, No. 2 (Nov., 2004).*
6. *Mattoo Aaditya, Devesh Roy, and Arvind Subramanian. The Africa Growth and Opportunity Act and Its Rules of Origin: Generosity Undermined? IMF Working Paper WP/02/xx. September 2002.*
7. *Ozden, Caglar & Eric Reinhardt. The perversity of preferences: GSP and developing country trade policies, 1976–2000. World Bank. 2004.*
8. *UNCTAD, 2005. Generalized System of Preferences List of Beneficiaries. United Nations Conference on Trade and Development, Geneva.*

Sovereign Wealth Funds- A Challenge for India

Sakshi Verma

Indian reserves have been increasing steadily over the last few years. Following the economic superpowers of the world like Norway, France and China, India is all set to further its role as a global player by venturing into Sovereign Wealth Funds (SWF), thanks to an estimated surplus of Rs. 2,50,000 crores in its balance of payments. Though the idea was also proposed back in 2008, it was rejected due to the heavy fiscal and current account deficits. The SWF are intended to help secure the energy assets overseas, as the country's demand is expanding and is expected to double by 2030. Also, with this fund, the government is expected to acquire assets to ensure supply of fertilizers in India. On one hand, this decision has gathered vehement opposition but on the other, eminent economists, RBI spokespersons etc. have encouraged the move.

Sovereign Wealth funds are state owned investment funds or entities established from balance of payments, official foreign exchange operations. They are part of a country's foreign exchange reserves that have been separated to invest in global equity, infrastructure, commodities and other financial instruments. Normally, if not invested, these reserves would increase at paltry rates. SWFs are a way to improve the country's finances as well as hedge against future crises. Some countries like United Arabs Emirates have created SWFs to diversify their revenue streams. The

country extracts revenues majorly through oil exports. UAE sets aside some portion of this revenue in the form of SWF to invest in other assets and also to hedge against any oil crisis.

However, a growing number of funds are turning to alternative investments, such as private equity, which are not accessible to most retail investors. The International Monetary Fund reports that sovereign wealth funds have a higher degree of risk than traditional investment portfolios, holding large stakes in the often-volatile emerging markets.

They have been broadly categorized as:

Savings Fund- to create wealth over longer term so as to meet future needs. For commodity exporting countries, savings funds help to convert non-renewable assets (such as oil) into financial assets for the benefit of present and future generations.

Stabilizing Funds- created by countries which have natural resources in abundance, in order to provide budgetary support and insulate themselves from volatile international commodity prices.

Pension Reserve Funds- to finance public pensions.

While there are a number of reasons why countries around the world establish SWFs, the unsaid rule which dictates their creation is the existence of excessive surpluses in the coffers of the initiating nation. Since India's debt is shrinking, the government wants to make hay while the sun is shining. But this plan accompanies dozens of apprehensions igniting debates all over the nation. There is an amalgamation of criticism and appreciation for sovereign wealth funds. History is fraught with examples of consequences of these funds, both positive and negative. On the positive end, these funds have helped the Western banks CitiGroup, Merrill Lynch, UBS and Morgan Stanley, to overcome the struggle they faced as a consequence of mortgage crisis during 2006-2008. Sovereign Funds are also major holders of government debt and are now being actively courted by European governments to aid in solving the Euro zone debt crisis. Sovereign Wealth Funds act as overseas investment and savings vehicles – which may affect economic growth by lowering inflation and restraining exchange rate appreciation.

Assume a situation of an increase in the money supply in the economy (for any reason). The possible two mechanisms that could be responsible for the resultant increase in inflation are: increasing domestic demand or a rise in money deposits.

Now, when there is excess money supply in the economy, unless the majority of this money is not spent on locally produced goods and services, this will boost domestic demand and could cause the economy to heat up if it does not have enough capacity to meet the extra demand. Also, money inflow causing a rise in money deposits in the local banking system might trigger an increase in the credit supply. Instead of converting these inflows into the local currency and spending them, a portion may be kept in as foreign currency and invested abroad using the Sovereign Fund. In this way the fund may reduce the impact on domestic demand from inflows of money – and so limit the feed to inflation in the short term.

Usually, the influx of foreign currency is used to buy domestic currency, and exchange rates bid up. By investing into the sovereign funds, the pressure for appreciation is mitigated because the demand for the domestic currency is

depressed (demand replaces investment). Funds also provide a system for allocating government funds and in doing so may increase transparency of a government's financial policy and reduce corruption. Moreover, being a store of wealth it also enables the investors, in times of crisis, to provide the government with loans at cheaper rates than they would otherwise have.

But the idea of investment in SWFs has ignited apprehensions too, about the political and economic dominance of foreign nations over the domestic financial institutions. This fear could also lead to investment protectionism, potentially damaging the global economy by restricting valuable investment dollars. Commentators and policymakers are concerned that SWFs as arms of their governments might be used by foreign governments to advance self-interests at the expense of the interests of developing domestic countries like ours. The potential actions most frequently mentioned are transfers of technology and explicit or implicit threats to disinvest if the country pursues policies at odds with the investor's interests. As witnessed during the global financial crisis, sovereign wealth funds from West Asia, China, Singapore and Norway suffered huge losses on their investments in Western banks and private equity funds. In addition to the fear of the increasing clout of foreign nations, transparency in accounts is a rabble rousing aspect. IMF after a recent survey found that nearly one fifth of the top 20 SWFs are not accountable to their domestic legislation.

For proper regulation and functioning, certain guidelines have been laid by the IMF which are to be adhered to on all accounts. Most importantly, the foreign exchange reserves of the country should be sufficient to meet its import demands for 3-4 months. As reported by the Business Week, India's coverage amounts to 14 months. In addition, as per the Greenspan-Guidotti rule proposed by former Fed chief Alan Greenspan, the countries should hold enough financial reserves so that the reserves and short-term external debt are in equal proportion. Data released by the department of economic affairs showed that India's total external debt at the beginning of 2011-12 was $306.1 billion. The short-term debt grew by $13.1 billion 20.1 per cent to $78.1 billion during the period under review. Short-term debt accounted for 23.3 per cent of India's total external debt, while the remaining (76.7 per cent) was long-term debt. The ratio of short-term external debt to foreign exchange reserves was 26.3 per cent at Dec 31, 2011 as compared to 21.3 per cent at March 31, 2011. India's foreign exchange reserves provided a cover of 99.6 per cent of the country's total external debt at the beginning of fiscal 2011-12, while it declined to 88.6 per cent by the end of the third quarter. Thus, India is unambiguously secure by a large margin, in both the aspects.

Associated Chambers Of Commerce and Industry (ASSOCHAM) say India is the only BRIC country bereft of SWF. According to secretary general D.S. Rawat, if India's GDP is to grow at 8%, then many sectors will have to grow at a higher rate and SWF will play a crucial role in that. Countries like Norway, Kuwait and Abu Dhabi with largest SWFs in the world, derive their revenues from oil and other non-renewable resources. To hedge themselves against the oil related risks and mitigate their financial risks, these countries reduce their long-term dependence on oil prices by investing in non-oil assets. Drawing a parallel he says, SWFs in oil and gas, coal and infrastructure sectors, will benefit the nation as India is a net importer of these commodities and their demand is likely to increase in the future.

They are viable and will abate the consequences of risks related to international commodity prices, thus helping in reducing inflation.

However, Mr. Rawat also pointed out, that quick decision-making and transparency should be built-in features of India's SWF. Given ubiquitous and deeply entrenched corruption in the Indian legislation, it is feared that crores would be cornered into individual pockets and the actual motive would remain engraved only on papers.

SWF's have helped some nations prosper and have degenerated some. India has to travel a long way to achieve the ultimate goal. If stringent measures to combat corruption and enhance transparency are undertaken, not only will the decision safeguard our position in the world, it will also extenuate the incessantly surging inflation and prices of foreign currencies. Otherwise, these funds may prove to be catabolic for the Indian economy. Political will is a bigger imperative than the bulk of money to activate the funds in order to benefit the nation and not just a few resourceful individuals.

References:

1. *www.assocham.org*
2. *http://ibnlive.in.com/news/indias-external-debt-rises-to-335-billion/244299-3.html*
3. *http://www.thehindubusinessline.com/industry-and-economy/article1709912.ece?homepage=true*
4. *knowledge.wharton.upenn.edu*
5. *www.business-standard.com*
6. *www.window2india.com*
7. *www.deccanherald.com*

China & India: A Macroeconomic Comparison

Raj Hans

Department of East Asian Studies, University of Delhi

China and India will exercise increasing influence in international affairs in the coming decades. As prominent members of the G-20, their influence will be manifest in the global economy, in global politics, and in the global security environment. Each country's role on the world stage will also be affected by the progress that it makes and by the competition and cooperation that develops between them.

This is a comparative assessment of their prospects in this period in macroeconomic growth. Economic growth in China and India has become a particular focus of attention of the entire world. In recent decades, growth in both countries has exceeded expectations. Between 1980 and 2008, China recorded an average annual GDP growth of 9 percent, while India's growth during the same period was about 6 percent. Both countries face the challenge of sustaining such high rates of growth.

An anthology published by the World Bank (Winters and Yusef, 2007)[1] provides several analytic models for assessing developments in the Chinese and Indian economies and their impact on global markets through 2020. In addition to providing forecasts of the two countries' economic growth, this book analyzes what would occur if China were to grow at an annual average rate of 6.6 percent, and

India at 5.5 percent, through 2020. Several essays explore other facets of China and India's growth, including effects on the geographical location of global industry, changes in the international financial system, effects on the global environment, and the relationship between growth and governments.

A paper from the International Monetary Fund (Rodrik and Subramanian, 2004)[2] estimates India's annual GDP growth during the 2020–2025 periods using a growth-accounting model based on inputs of capital and labor and increases in factor productivity. Rodrik and Subramanian acknowledge that their estimates may be low if India succeeds in expanding and improving its educational system. They note that India's productivity growth has benefited from its stock of highly educated people, although they do not provide much supporting evidence. They also acknowledge that their growth forecasts rely on continuation of effective economic and social reforms in India. Rodrik and Subramanian also contend that, unlike China, India already has strong economic and political institutions, so that further reform need not be burdensome. Instead, they suggest that India "has done the really hard work of building good economic and political institutions—a stable democratic polity, reasonable rule of law, and protection of property rights," concluding that "countries with good institutions do not in general experience large declines in growth."

As previously noted, not all of the authors agree with this judgment. Some of the other studies contend that the effectiveness of India's institutions leaves much to be desired (e.g., Poddar and Yi, 2007)[3]. The forecasts made by the international organizations' studies showing a marked advantage in China's expected growth relative to India's may plausibly be attributed to China's more prominent role in international trade and investment markets relative to India. As a consequence, one might expect international organizations to be particularly cognizant of and sensitive to this in their estimates of the two economies' growth over the next 15 years, resulting in the relatively buoyant forecasts for China.

In turn, these assumptions and the selectivity of their focus affect the inputs to the analytic models that the authors use in generating their respective forecasts. In the process, the forecasts ignore cyclical fluctuations around long-term trend estimates. They ignore the possibility of major shocks such as political disturbances, natural disasters, or military conflict and, on the optimistic side of the spectrum, the possibility of a major technological jump that might trigger a new wave of innovation in either China or India.

Figure 1 below shows the five contrasting GDP growth pairings between China and India in 2020–2025 under the five contrasting scenarios.

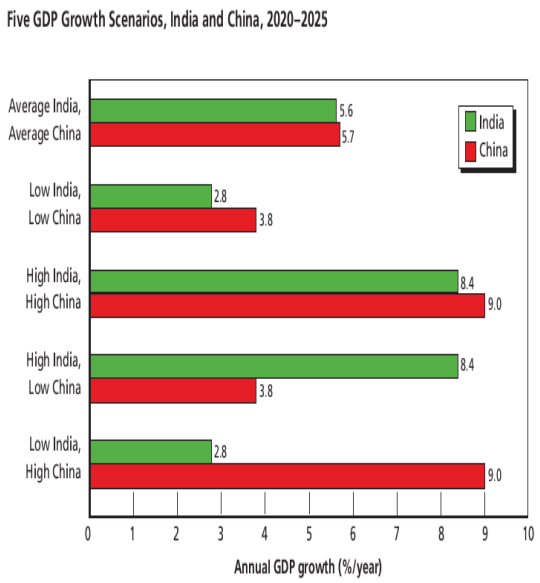
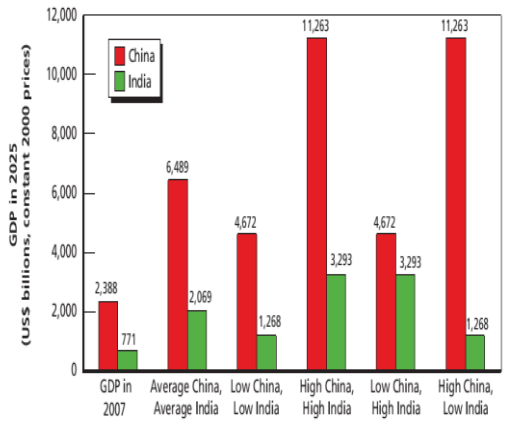


Figure 1

Figure 2 shows the GDPs for India and China in 2025 in terms of market exchange rates (Figure 2) and Purchasing Power Parity (PPP) conversion rates (Figure 3). As Figures 2 and 3 indicate, only in the scenario in which high growth in India is paired with low China growth does India's GDP approach China's. In the four other scenarios, China's predominance is decisive. This outcome is the same whether conversions are calculated with market exchange rates or PPP rates.

Five Scenarios: GDPs of China and India in 2025, Market Exchange Rates



NOTE: Conversion to market exchange rates based on the World Bank's World Development Indicators (World Bank, no date).

Figure 2

Five Scenarios: GDPs of China and India in 2025, Purchasing Power Parity Conversion Rates

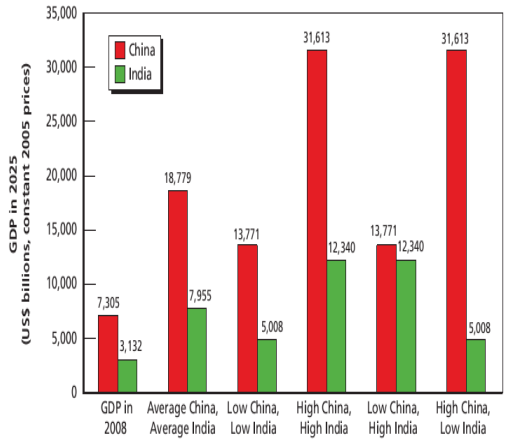


Figure 3

Turning to a more qualitative aspect of the China-India assessment, the table below distills from the meta-analysis our judgment about the advantages and disadvantages of China and India in their respective institutional and other circumstances. Whether and to what extent the factors listed in the following table will enable India to move closer to, or ahead of, China after 2025 is worthy of separate consideration.

Some Qualitative Factors Affecting China and India's Performance

Factor	Advantage of China or India?
Democracy/rule of law	India
Information technology and service skills	India
Institutions	India
Property rights	India
Productivity growth	China
Foreign investment in and by each country	China
Infrastructure	China

China and India have taken quite different paths in pursuit of their economic development. China has emphasized the expansion of labor-intensive manufacturing, while India has charted a path from agriculture to high-end services with a limited increase in the manufacturing sector. In sum, the wide range of the estimates reflects both the assumptions and behavioral dispositions of the forecasters, the issues they focus on as well as those they ignore, and the deep uncertainties that surround forecasts over the next decade-and-a-half.

References

[1]*Dancing With Giants: China, India, And the Global Economy, World Bank Publications, 2007 - 272 pages*

[2]*From Hindu Growth to Productivity Surge: The Mystery of the Indian Growth Transition; Dani Rodrik and Arvind Subramanian, IMF working paper, 2004*

[3]*India's Rising Growth Potential, Tushar Poddar and Eva Yi, 2007*

Diminishing Relevance of WTO: Structural or Functional?

Deeksha Trehan

Due to the global integration of domestic markets, the gradual process of economies becoming inter-linked and inter-dependent, the rising weight of influence of emerging economies and the arising conflict of interests, WTO has been under the scanner; its role, its impact and even its relevance has come to be debated across nations.

Set up in 1995 after a series of Uruguay Round negotiations (1986-94), the organization which was initially thought to be a triumph of international law over anarchy in the field of trade affairs, has with time, arrived at a position where it holds its relevance in its inclusion as headlines like "Doha talks failed again". Is it now about the ideology on the basis of which it was formed? Or because of the ineffective implementation of guidelines derived from that very ideology? Is it a structural fault rooted in the basic aim or functional fault in the working of the organization?

On the ideological basis, WTO defines its main function 'to ensure that trade flows as smoothly, predictably and freely as possible'[1]. Broadly, it is based on the theory that the economy will achieve efficiency in the abolishment of the impediments imposed on free trade.

The efficiency of free-trade model might be a temptation to believe that it is the best mechanism of achieving efficiency. But, not all seem to have succumbed to this temptation. There have been criticisms questioning the above stated principle. While the left sees the WTO as a near perfect example of clique of stronger nations forcing agreements over less developed nations, the right wing attack the WTO on the grounds that it's an unnecessary entity. Crudely, they believe if the WTO were really designed to encourage trade, it would force member nations to drop all protective measures and allow 'true' free trade, rather than facilitating tariff negotiations. Critics of free trade are mostly the NGOs. "Enormously rich charities have now turned to agitating about trade issues with much energy but little understanding. These and others are now very big businesses, and like corporations they are under pressure to diversify into new areas of public policy in search of growth, regardless of expertise, as they pursue fundraising opportunities. But they are more dangerous when they speak from incompetence, since they wear halos that the corporations do not. They argue that free trade is not sufficient for growth; we also need other supportive policies. By and large, yes. But then again, it does not follow that freeing trade is no better than not freeing it".[2]

Proponents of protectionism claim that with the state's intervention, the end of achieving fairness is solved. For example, restricting imports can seem an effective way of supporting the local industries (based on the infant industry argument). I feel that this argument misses to take an overall view in consideration. Actually, if by restricting imports say, of agricultural commodities, we are protecting the farmers in our own country. It seems fair enough; but now, will it be fair for society as a whole? Consumers will have to pay more for expensive food, which will put pressure on wages in all sectors owing to wage-price spiral. Not only will their purchasing power

drop but also the variety of goods will shrink drastically that would have been higher in the absence of any restriction. As a result, the bias will creep in against other sectors in the economy and the purpose of achieving fairness will itself be defeated. When exposed to foreign competition, domestic industries get an incentive to innovate and perform. It might not seem that appealing in the short-run but in the long run the competitiveness will eventually lead to development of industries within the country. Otherwise, "the result is that the infant does not learn and grows up wearing protectionist diapers into premature senility"[3].

It is also feared that imports might lead to increased pressure on 'infant industries' unable to compete, thus leading to laying off workers and thus, job losses in the domestic country. But, a study[4] of correlation between volume of imports and unemployment rate of 23 countries suggests that imports and the unemployment rate might have been linked from 1970 to 1990, imports are no longer linked to job losses. Many other factors are tied to sustainable job creation. Thus, it can be well argued that it is only the fear, not strong empirical evidence that resists one from accepting the benefits of a free trade. Especially, for the market phobic proponents who prefer to be at an obtuse angle vis-à-vis the positive effects of *lassiez-faire* economy, more exposition is required so that the pro-market principles are interpreted in the true sense and not just to label it as "unfair". And thus overall, I find it better to call the 'ideological criticisms' as 'misunderstandings' about WTO.

On the ideological level, everything might seem like a sweet, simple story interrupted by frivolous fear-driven arguments. But in fact, hue and cry has well been in place regarding the improper implementation of trade guidelines by bias against developing countries. It is often argued that developed countries argue for abolishment of impediments on trade like tariffs in developing countries, without abolishing their own. Definitely, such strong protectionist forces have been at play. In response to the 2009 crisis, U.S. included protectionist provisions. France has also been appealing against imports and outsourcing as "economic patriotism". As a result, the functioning of the organization has faced severe criticisms. At the same time, the critique that it has not been able to deliver a fair process has been countered well by Narlikar "This was a valid criticism of the WTO ten years ago, It is an outdated and irresponsible critique to launch against the organization today. "

The effort in the direction of achieving the desirable state of no bias might have been helpful, limited development has been made in this direction, preventing me from calling it an achievement. So far, a free trade regime has only been a lip service by the developed countries and has not been achieved in spirit.

Another point as a criticism to WTO's functioning is that the time taken in negotiations and forming consensus is excessively large. What also needs to be noticed is that it is because of the rise of the voice of the weaker nations that the negotiations are not agreed upon, or 'forced to agree upon'. No doubt, delaying can never be a solution. However, in the long-run, the greater representation of developing countries, not only on papers but in being is a good sign for world development.

An often-heard accusation is that WTO system treats trade as the priority, at the expense of environmental and humanitarian objectives. This is untrue.

Though it is not an aid agency or an NGO but a TRADE organization, it has worked towards benefiting the world through its developmental work in developing countries. For instance, in the last week of November 2012, trade diplomats from 13 Asian economies participated in a workshop in New Delhi to discuss best practices for dispute settlement[6]. In addition to the efforts by the trade organization, similar efforts are required from the non-trade institutions of society also. George Soros clearly explains where the fault lies: "The trouble is not really with the WTO but with the lack of similarly powerful and effective institutions devoted to other social goals."[7]

As seen in the past decade, the ambition of WTO of having a free trade regime remains a fantasy. Though it fails on the implementation of the guidelines of achieving efficiency as well as equity, it deserves applause for the sound ideological basis. Hence, the suggestion that it should be dismantled altogether should be dismissed and efforts should be taken in the direction of the effective functioning and implementation.

References:

1. *www.wto.org: The WTO in brief*
2. *Bhagwati Jagdish, Reshaping the WTO (2005)*
3. *Bhagwati Jagdish, Reshaping the WTO(2005)*
4. *Newfarmer, R. and Sztajerowska M. (2012), "Trade and Employment in a Fast-Changing World", in OECD(2012)*
5. *Narlikar 2008, as quoted in 'Is the WTO still relevant?' Sophie Meunier, Princeton University (2009)*
6. *www.wto.org > wto news> 2012 press releases*
7. *George Soros, 'Fixing, not Sinking the WTO', Project Syndicate*

Indo-American Economic Relations & Impact of Obama's Second Term

Stuti Oberoi

The India-US strategic partnership is a broad-based one and has matured over the years, with a bipartisan support for the relationship. During his first term, President Obama declared the U.S.-India relationship "a defining partnership of the 21st century". Now, it is up to him to continue working toward this vision by reigniting the key foundational element, U.S.-India trade and commercial ties. As the world's second-most populous country and on track to become the world's third-largest economy, India will be an important ballast to the U.S. "rebalancing" strategy, and bilateral economic relations will yield substantial growth opportunities for both nations.

With Barack Obama re-elected as the president of US, India needs to watch his stand on FDI, immigration, outsourcing and overall relations. While corporate India and public at large are happy with Obama winning the second term, will the president match up to India's expectations?

The Indian outsourcing industry is still growing fast. Revenues for India's information technology and outsourcing industries are expected to cross $100 billion this financial year, up almost 15 percent from a year ago. The industry gets more

than half of its revenue from the US as the companies in this sector employ most of their staff in India, where the costs are lower (an employee in US is three times more costly than one in India). The slow pace of economic recovery in the US and the high rate of unemployment over the last few years saw Barack Obama taking a tough stance against Indian outsourcing companies in his first term because Indians are often perceived as the ones to be taking away jobs from the West. Barack Obama's victory in the 2012 US presidential elections has made India's $100 billion IT services sector edgy. Job creation emerged as a top priority in the presidential campaign. Obama announced a string of measures such as tax breaks for the companies who are ready to invest only in the United States to create jobs within the country. However, the issue of outsourcing might be mere election propaganda and it may not actually affect his policy decisions since even US companies have made profits by outsourcing. In realistic terms, the country is facing shortage of skilled technical employees, triggering the need for such workforce from India.

The US in the past few years has tightened its visa policies as well. Rising visa costs, coupled with rejections and delays have adversely impacted the employment prospects of Indians going there. Firms will find it difficult to secure US visas for their staff during Obama's second term in Office.

In the grand scheme of the U.S. labor market, however, most Indian immigrants are job creators. They are entrepreneurs or people who add to the U.S. economy with their skills, rather than "job-takers"—low-skill immigrants whose primary contribution to the economy is to take existing low-skilled jobs, which they are willing to do for a lower price than Americans.

The picture is positive for India's software product industry. Obama is a big supporter of start-ups. There could be more capital available to Indians because capital movement cannot be geographically restricted. India has a lot to gain by supporting his policies and our industry must do its bit by facilitating job creation in America and encourage joint partnership in healthcare utilities and education. A strong America will generate more FDI (Foreign Direct Investment) and create more global jobs, which would benefit the world.

The Indian Rupee has been valued pretty low for some time now. The causes being many, including India's growing troubles over corruption and inter party mudslinging. With Obama being re-elected, it is projected that the Dollar may continue its upward growth and the Rupee to be pressurized lower. However, this can be averted. Bilateral trade was expected to cross the $100-billion mark in 2012 in a range of sectors like higher education, homeland security, cyber security, green energy and climate change, women's empowerment, science and technology, healthcare and innovation. India counts among the top 10 fastest-growing sources of FDI into the US. Indian companies across the US are operating in a range of sectors such as pharmaceuticals, healthcare, financial services, manufacturing, telecommunications, iron and steel, information technology and media and entertainment. These companies are not only investing and generating revenue in the US, but critically, are saving and creating jobs. India's IT industry alone employs some 35,000 US workers with R&D activity on the upswing. Indian companies have brought in $30 billion in investments into the US economy in the last five years and paid $15 billion of taxes and also contributed $3 billion to social security.

Also, Indian students, the largest from any country in the US after China at 1,05,000 in 2009-10, add to domestic university strength and contribute to local economies as well. These positive trends are likely to continue during Obama's administrative term. Obama's win will ensure continuity of his economic policies and programs, which will also help in putting the world economy back on track. If the US administration ensures more economic engagement with India, it will help both the countries in grappling with the slowdown. The real challenge for Obama is to overcome the fiscal cliff soon in order to boost the US economy. In the process, IT sector will grow and India is bound to get a fair share of the growing market and its related benefits. The IT sector will require competent manpower, talent and skills which to some extent will give India a chance to supply. Indian IT industry's fundamentals are strong and the economy is likely to grow with the adoption of new technology.

Obama is also supportive of China playing a bigger role in Asia and looks at Beijing as an important partner, which is specifically not good news for India. As far as nuclear deal and FDI policy are concerned, it will be in India's favour, being a big customer.

As India increasingly diversifies its portfolio of trading partners, the U.S. share of global trade and investment with India is falling. Other nations are pushing ahead on their economic engagement with India. Today, India has investment agreements with over of 80 countries, including all major European nations, the Association of Southeast Asian Nations (ASEAN), Japan, and South Korea. Over the next four years the United States should step up its efforts to solidify its economic partnership with India lest it cede ground to India's other trading partners and fall short of realizing the full potential of a truly "defining partnership."

We have moved on allowing foreign direct investment in multi-brand retail, insurance, pension sectors but significant reforms in the financial and labour sectors sought by the US are still awaited. Obama, who had commented critically some months ago on the reforms slow-down in India, is likely to return to the theme, particularly as his focus on economic issues in his second term might become sharper in order to bolster the flagging US economic growth.

The role of the Indian and American national governments should largely be to allow specialization and comparative advantage to bring greater mutual prosperity. Services trade shows a reasonable match to each country's comparative advantage. The Indian performance in services trade is quite good, stemming in part from a less regulated labor market than is the case for manufacturing. Goods trade, in contrast to services trade, does not appear to reflect comparative advantage. This is because exchange is being dictated only secondarily by the preferences of individuals and companies. Trade patterns are warped by barriers imposed by governments. The best way to enhance bilateral goods trade is to bypass these two national governments. Indian states have their own trade barriers, but they can also act to offset national policies that interfere with their particular comparative advantages.

Closer economic ties in infrastructure sector can yield mutual benefits to both the countries. The Government of India is continuously reviewing its policies to create an investor friendly environment in sectors such as roads, ports and airports. Private sector participation in management, green-

field airports, terminals and shipping berths and capacity augmentation has been initiated.

With Obama's second term, we don't expect any exceptionally adverse policy changes as he would work on the lines of his previous policies. But we definitely hope for a positive impact on the economic relations between the two nations as both are at stake. It will require a great deal of work for the office bearers of the two nations to lead India-U.S. economic relations forward. But the rewards will be vast.

THEY SAID IT !

'The ideas of economists and political philosophers, both when they are right and when they are wrong are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist." *John Maynard Keynes*

"Despite a voluminous and often fervent literature on "income distribution," the cold fact is that most income is not distributed: It is earned." *Thomas Sowell*

"If you owe your bank a hundred pounds, you have a problem. But if you owe a million, it has." *John Maynard Keynes*

"Economics is extremely useful as a form of employment for economists." *John Kenneth Galbraith*

"99 percent of all statistics only tell 49 percent of the story." *Ron DeLegge II*

In Conversation with Dr. C. Rangarajan

Dr. C. Rangarajan is an Indian economist and a distinguished former Member of Parliament and the former governor of the Reserve Bank of India (RBI). He is currently the chairman of the Prime Minister's Economic Advisory Council.

EB: There has been a lot of talk lately of India's growth engine losing its steam. Growth rates have plunged as compared to previous years and things are looking grim with rating agencies revising the status of Indian sovereign bonds. According to you, at this point in time, in which direction should the trade off between inflation curbing and growth oriented policies be?

Well, the Indian economy has done well if you look at the last seven years. The rate of growth of the Indian economy in this period beginning from 2005-06 has been 8.3%. Growth has slowed down in the last two years. Partly this is because of external factors but it is also due to a variety of domestic factors. The output of some of the key industries like coal has fallen and this has affected the generation of power as well. There have also been some price shocks because of the external factors. Moreover, the investment sentiment has also been affected for both economic and non-economic reasons. As we look at it, the most important thing is to raise the level of investment in the economy. The savings rate in 2007-08 was 36% and the investment rate was 38%. Even with an incremental capital output ratio of 4:1, we could get a growth rate of 9%. However, since then the savings and investment rates have fallen by almost three percentage points. Therefore, one of the things that we need to do in order to get back to the high growth path is to raise the savings and investment rates. I believe it would be possible to do so and to some extent taming inflation will also help. In the long run, I believe there is no conflict between inflation and growth. Over a long period, a stable price situation is conducive to faster economic growth. There could, however, be some periods of conflict between the two but we need to resolve it. I think the whole question of 'either or' is not the right way to look at it. We should control inflation and also aim at higher growth in the economy We should work on both fronts. I would think that the growth rate of the Indian Economy in the current fiscal could be between 5.5 and 6 percent, perhaps closer to 6 percent. In the next year, it could be 1 percent higher than what we see in this

year. Thereafter, I expect the Indian economy to pick up, move on at higher growth rate of 8 percent and subsequently we can get back to a 9 percent rate of growth also. In achieving this nine percent rate of growth, the external environment will also be important. But I see the economy moving to higher levels beginning the next fiscal.

EB: Do you think the Direct Cash Transfer scheme that has been introduced recently is a step in the right direction for the Indian economy at this point of time?

I think the direct cash transfer is a means of ensuring that subsidies reach the intended beneficiaries. Initially, direct cash transfer is being introduced with respect to the delivery of those benefits which have a direct cash component, whether it be disability pension, old age retirement pension or scholarships. These are already cash transfers. What we are now doing is to ensure that these cash transfers occur in the bank account of the beneficiaries to achieve two things: one, it reaches the intended beneficiary and two, there is a greater accountability. So, in that sense, I believe that the direct cash transfer, with respect to a number of schemes, is the most appropriate way to transfer subsidies.

EB: The government has been cutting its subsidies on fuel to control its fiscal deficit. Don't you think that this will adversely affect the poor and lay a greater strain on their already limited resources?

Well, we can, in the case of some, provide subsidies. It is not as if we are not providing subsidies in all cases. In the case of LPG or kerosene subsidies are being provided. But in relation to other commodities, it is very difficult to provide subsidies on a large scale. Therefore, we have some idea of the extent of subsidies that can be given with respect to petroleum products and that subsidy will definitely be provided. However, beyond that, I think the prices will have to be adjusted.

EB: You were recently quoted as saying that the RBI should give preference to the non-corporate sector for new bank licences after the approval of the Banking Laws (Amendment) Bill. Why do you think this is important?

This is still under discussion. The point really is that certain amendments were required and felt necessary on the part of the Reserve Bank of India. Until we resolve all the issues, the priority can be given to entities that do not necessarily form a part of corporate business, because that discussion relating to corporate business will go on and RBI will come up with appropriate condition . So, what I was saying is only that at the moment, priority can be given to non-corporate business sector. If there are fit and proper entities in the non-corporate business sector that is, the financial sector, they may be given licences first. Regarding corporate business, it can be considered after the RBI comes up with appropriate guidelines.

EB: What do you think are the downsides of giving licences to the corporate sector?

Well, the problems that have been raised are that there could be conflict of interest and therefore we need to resolve or put in place the appropriate mechanism to prevent this from happening.

EB: The poverty line has currently come under a lot of criticism and its actual definition is a topic of debate. Do you think that there is a better way to identify the actually needy?

There are two things; one is identifying the beneficiaries for the various programs.

Now, this need not necessarily go by a particular definition of poverty. It will depend upon the particular program and its nature and there could be different criteria. But we need some definition for poverty line in order to indicate how the economy is behaving over a period of time in terms of the distribution of income. So one idea is, if there is a defined line of poverty then in relation to that defined line, we can see how the economy has behaved. Therefore, there are two different things, one, just as a matter of measurement within the economy, to find out the distribution of income in relation to a given line and this given line can be defined in a number of ways. Secondly, as far as entitlements are concerned, different programs can have different criteria. So, one can define a poverty line in relation to certain basic minimum needs and in terms of this poverty line, measure how the society has behaved over a period of time. At the same time, the entitlements for different safety net programs can vary; there need not be one single criterion by which different programmes are administered.

EB: What would be your advice to prospective economists and young students like the readers of Aapoorti?

I think India has a big future and the youth of today will be members of a growing and stronger India. In one sense, the future of the students depends upon how the economy behaves, but at the same time, they also have an opportunity to contribute to the way in which the Indian economy will behave. I would only say that the young should seize the opportunities that are available in the Indian economy and make their contribution towards building up a stronger and more humane India.

Note

EB: Editorial Board

Crossword solutions

CURRENCY AROUND THE WORLD

E	U	R	O		S	P	I	N	E		M	A	R	K
G	L	O	P		P	E	S	O	S		A	L	A	I
A	T	M	E		A	T	T	I	C		G	I	S	T
D	R	A	C	H	M	A		R	U	P	I	A	H	S
S	A	N		M	M	L	V		D	E	C			
			T	O	A		E	T	O	N		A	Y	N
U	C	L	A		I	A	G	O		A	B	L	U	E
S	H	E	K	E	L	S		B	O	L	I	V	A	R
D	I	N	A	R		T	E	E	N		R	A	N	D
A	N	D		U	F	O	S		C	A	R			
			C	P	R		T	A	O	S		A	R	K
P	E	S	E	T	A	S		G	U	I	L	D	E	R
A	R	I	D		N	I	C	E	R		A	M	M	O
L	I	R	A		C	Z	A	R	S		V	A	I	N
S	E	E	R		S	E	N	S	E		A	N	T	E

In Conversation with Dr. Isher Ahluwalia

Dr. Isher Judge Ahluwalia is a renowned Indian economist. She is a Member of the Eminent Persons Group on India-ASEAN (Association of South East Asian Nations) set up by the respective governments and is presently the Chairperson, Board of Governors, the Indian Council for Research on International Economic Relations (ICRIER).

EB: There has been a lot of talk lately of India's growth engine losing its steam. Growth rates have plunged as compared to previous years and things are looking grim with rating agencies revising the status of Indian sovereign bonds. What is your take on this and do you still see India as an economic superpower in the future?

I have never thought of India as an economic superpower by 2020 or 2025. What I do see is, that India is making a transition from a low income to a middle income country and because of its large size, we will see India as the third largest economy by 2030, which means that we will have the third largest GDP in the world and we will have a tremendous market for both domestic and foreign investors, given the fact that the developed economies have a lower growth rate. Our second strength is the fact that we are at a stage of demographic transition where the percentage of the working population is increasing continuously. In China and some other major countries, this is not the case. India is the only major emerging country where the percentage of the working population will continue to increase for several decades and if we can empower this young population with education and requisite skills, then we will be in a very strong position to realize our economic potential.

EB: Do you think the Direct Cash Transfer scheme will work in the coming year in plugging leakages in welfare schemes? Opponents of the policy say that the money transferred may be misused thus nullifying the very purpose of the program. What is your take on that?

Our first concern is that when we subsidize any item, be it food, fuel or fertilizers, then our systems of delivery are such that in passing that subsidy to the right person, a lot gets siphoned off because of inefficiencies, delays and corruption . For every one rupee worth of food grains that you want to give to the poor, he gets only 15 paise. Some of that goes into buying, storing, transporting the grains while a large part is siphoned off by the intermediaries.

The second issue is that when you give the family money, the men may end up spending it on liquor or gambling. We need to develop a population with values which believes in depending upon itself. How far can you expect the government to solve all problems? We need to have family units, where parents give priority to feeding the children. Merely giving them food and not giving them these values will lead the families to spend everything other than the food, on things which are not the right priorities. There are studies that show that female heads of the family are much more inclined to look after the family welfare than male heads. So until the time when we can create a generation of men which can behave more like women, we have to somehow ensure that the money gets into the hands of the women heads and empower them. If women are economically independent, are in positions of power and have an equal say in family decisions, then we can save the aforementioned 85 paise, especially when these women can go to the banks and get their money. It surprises me that we do not get something as simple as this. It has worked in countries like Mexico, whose 'Progresa' scheme is all about Cash Transfers. Those indulging in corruption and adulteration will not be able to continue with their practices. To me there's no question that Direct Cash transfers, especially into the hands of the women of the family, will go a long way in ensuring food security.

EB: It was recently reported that while Gujarat is a high-growth state, it's faring poorly on social indicators, such as poverty, hunger etc. Do you believe that these two factors go hand in hand in the short run?

While it may be true that Gujarat has high growth indicators and low nutrition levels, look at other states' hunger levels and compare. Is it true that the hunger level in Gujarat is higher than Bihar's? I do not know but please check.

The challenge of poverty and hunger is very much there in our country. But unless you have high growth, where will you get the revenues required to alleviate these problems whether it is Gujarat or Maharashtra or any other state for that matter? The reason we have seen so much money being spent on social protection over the last 8-9 years of the UPA government is because these were the years of very high growth rates for the Indian economy and with high growth rates, the government could spend large amounts on health, education and poverty alleviation. But I think where they made a mistake was, that they just took growth for granted and did not realize that you also have to make sure that the conditions which create growth remain intact.
It is true that the external environment became adverse with the global slowdown but there were also a lot of internal economic lapses. Some measures, for example, retrospective taxation, were taken in the last budget, which hit at the confidence level of the investors.

The data shows that between 1993 and 2004, the percentage of people in poverty declined by 0.8% per year but between 2004 and 2011, the decline was 2% per year. Now, you could say that the cut-off should be higher. I have no problem with that. The poverty line may not have been rightly defined. If you want to see if the extent of poverty has changed over a long period, you have to fix a line to see how

many people are crossing the line over time. There is no doubt that many more people have crossed that line in the more recent period. Growth by itself will not reduce poverty, growth will enable you to reduce poverty. If you do not have growth, you will have neither inclusion, nor employment.

EB: In the context of the last question, isn't it true that long term effects of policy will not be taken into account in democracies like India where power changes hands every few years?

That's actually a very good question. It is true that in a democracy, the short-term takes precedence over the longer term. But a vibrant democracy is one in which people like you and me, the think-tanks of the world, the civil society, make the government accountable and therefore, put pressure on the government to ensure that it delivers. In our case, now that the younger people are increasing in numbers and are technologically empowered, you can have mass mobilisation through just a mobile phone. I think this is going to change the way governments think. This trend of demanding good governance will continue no matter which government comes. To some extent, anyone with money can create false movements because it is easier to do so using the technology. But at the same time, governments have to learn to effectively communicate, deliver and make their case. And I think that is where this government has been weak. They have done a lot of good work but they have not been effective in communicating with people. They have to account for a cumulative slide in governance in our country, which has reached the level where it has crossed the tipping point. The younger generation is less patient with the incremental changes.

EB: The poverty line has currently come under a lot of criticism and its actual definition is a topic of debate. Do you think that there is a better way to identify the actually needy?

One way of defining the poverty line is that you define a cutoff, and you say that people below that cutoff should be the target of welfare programs. I think that a lot of this debate is governed by people wanting to use the poverty line as a cutoff. The minute you say that the poverty line will not be the basis of your deciding who will get what subsidy, people will not get that agitated about the poverty line. The technicians have been defining the poverty line for a long time and many economists have been saying that poverty is not just consumption poverty or income poverty; it is also education poverty, health poverty and housing poverty. For example, it is not only the poor who live in slums but also the not-so-poor. This is because they can't afford to rent a living space as the housing market is very highly distorted. For the last eight to ten years, when economists talk of poverty, they talk not only about income poverty but also about millennium development goals and social indicators. Perhaps the simplest way of defining the poverty line is to say that the bottom 30% or 40% of the population will always be called poor. Then you don't waste energy on counting the poor, but you get on with the business of getting people out of poverty.

EB: There has been uproar over allowing Foreign Direct Investment in retail. While it is true that FDI will bring in the much needed foreign exchange for India but at the same time the profits that accrue to the foreign investors will lead to a simultaneous outflow of foreign exchange. Does this defy the purpose of the policy?

Look at what foreign direct investment in retail will do to the economy. In our country, 70% of fruits and vegetables go waste. By contrast, the retail sector in Malaysia and Indonesia, for example, is modern. You can walk into a store and

nicely buy your vegetables and all. Different locations in Delhi have different prices for the same fruits and vegetables. To this day, when I go to buy my vegetables, I know my *salwar kameez* will be filthy by the time I have finished with shopping for my vegetables, walking through the biodegradable waste in the lanes. We must modernize retail, especially when women are joining the workforce. We don't want to sit there and haggle and buy our vegetables like our grandmothers did. We want to walk into a store, see the things displayed nicely, and pick up what we want. And in the process, the fruits and vegetables that rot away, simply because there is no refrigeration, can be saved. Once you have refrigeration, the life of fruits and vegetables is enhanced. You can process them, add value to them, and create several employment possibilities.

A large percentage of the FDI in retail will have to be put into backend investments in logistics and refrigeration, modernizing our retail sector. Indian companies just don't have that kind of money to invest in back-end investments. Suppose five years later, if these foreign companies were to go away, their investments would still be there and our economy would be modernized. So there's no question in my mind that FDI in retail will be a game-changer. It will actually connect the urban and the rural sectors in a very modern way.

EB: We see some sort of a tiff between the stance of the finance minister and the governor of the RBI in relation to growth and inflation. According to you, at this point in time, in which direction should the tradeoff between inflation curbing and growth oriented policies be?

That sort of tiff is not only in India but everywhere, at every point in time. The RBI's objective is to look after inflation and protect the value of money, and therefore, they keep their eye on inflation and exchange rates while the Finance Ministry and the Planning Commission are working to attain higher growth rates. Since lower interest rates create better conditions for growth, there is tension. The RBI would say that they are also for higher growth rates provided the government reduces its fiscal deficit. Higher fiscal deficits put upward pressure on interest rates. I agree with the RBI. If the Government does not cut the fiscal deficit and continues to borrow, then it is crowding out private sector investment. That is the real challenge. Both the Government and the Reserve Bank of India have to work together. Lowering the interest rates and curbing the fiscal deficit should go hand in hand, and if that happens, the growth rates will improve automatically and, demand side pressures on inflation will also go down.

EB: What would be your advice to prospective economists and young students like the readers of Aapoorti?

I would ask prospective economists to conduct research on issues relating to the challenges of urbanization in general and of urban service delivery in particular. We economists have focused our research on socio-economic issues but failed to look at the spatial implications of the development strategy. The Indian economy is going through a phase of significant structural transformation. Urban share of GDP is projected to increase from its current two-thirds to 75 per cent by 2030-31. Urban population is projected to increase from its current 30 % to 40 % by 2030-31.

The target in the 12th Plan is to have an average growth rate of 8 % over the five year period. Agriculture can grow at most at 4-4.5 %. Most of the growth has to come from the Manufacturing and Services

sectors. In the past 10 years, growth came mostly from the Services sector, but efforts are being made to ensure that the industrial sector contributes its share to the growth story as well. Where will that growth be hosted? In the cities and towns of India. And just as the Green Revolution acted as the engine of growth in the 1970s and 1980s, likewise, for the foreseeable future, the cities of India will act as the engines of growth.

We economists often talk of improving the investment climate by reducing the transaction costs of doing business. However, even if minimize the cost of doing business by having a perfect government and a sound financial system, why would anyone want to invest in cities whose water and sanitation conditions are abysmal and which lack basic infrastructural facilities? The whole point of investing in cities is that they provide agglomeration economies. Instead, if we create congestion diseconomies, why will investors invest? Unless you improve the quality of life in the cities of India, you will not be able to achieve sustainable growth of 7%, leave alone 8%.

I want to bring the urban agenda to the mainstream of economic discussion in our country. I do not mean urban vs. rural. This is a political construct. What we need is rural-urban synergy. That is why FDI in retail is a game changer. It will not only change the urban facilities but also the face of rural India. The first chapter of the Report of the High Powered Expert Committee on Urban Infrastructure and Services which I had the privilege to chair, will tell you how the urban sector is connected with the overall structural transformation of the Indian economy. The political economy of our country has remained focused on the rural for a long period of time, neglecting the growth of the urban India. It is high time that we looked at the challenges of urbanisation and the connection between the rural and the urban sector.

Notes

EB: Editorial Board

UNCONVENTIONALLY YOURS

Stirring the Pot

Surbhi Bhatia

I.P. College, Delhi University

The common notion: Legalization of drugs doesn't go down well with people. Majority still believes that it will increase the amount of drug usage in our country and that by making it legal, people who haven't tried it before might want to indulge as there wouldn't be a law governing their fear. The gut instinct is that demand would increase in the short-term, as the penalties for being caught go down (to zero) and the drug should be easier to attain. Both of these factors suggest that in the short-term, demand should rise. And one cannot simply put the blame on the masses for having such stereotypical beliefs. After all that's what our bollywood movies have endlessly taught us over the years. The Police officer ignores the would-be-buyers and gets into the jeep right after the pusher. After a good chase of overtaking the other cars and shooting bullets, the officer captures the miscreant with a high Krishh-type jump over half a dozen cars lined up in a jam that ends in a perfect landing. But that's not the end. The real target is the supplier, smuggler. And needless to mention, a deal is made – Exemption from the punishment in return for the name of Mr. Mafia!

Like it or not but that's what has influenced our thought processes, society and the economy. Why the supply side approach-

trying to reduce the supply and not the demand, heavy penalties for the suppliers and not for the people who buy it even if that means living in a society that breeds addicts; is not good is because billions are spent every year as expenditure on prohibition enforcement – arrests, prosecution and incarceration. Legalization would reduce this deficit and will allow government to collect tax revenues on legalized sales. Not only that, drug related crimes are the external costs related with drugs. By decreasing the supply and creating a shortage, murders, mugging and mayhem will increase for sure since the addicts have an inelastic demand. The price does not bother them.

If the focus is shifted on demand – A drop in the demand will create a supply side generated surplus in the market as a result of which the prices will go down. With quantity and price both low, the total revenue shall also fall along with a drop in associated crimes. But how would this demand fall? Education and awareness, drug treatment programmes and rehab centres would come to our rescue here. Alternative occupation possibilities and training and making sure the low income group has a reasonable employment and educational level will push down the demand. Embracing information, public awareness, early intervention, counseling, treatment, relapse prevention can reduce the demand for drugs tremendously. As long as there is demand, someone or the other will supply. Therefore the focus should be shifted on tapping the demand instead of supply. Humans have always been tempted by the 'forbidden fruit' since the time of Adam and Eve. It is quite possible that once drugs are legalized for a period of time, they will no longer be seen as 'cool' by the rebellious youth and the demand might actually plummet. Imposing taxes can also help keep a check just in case the usage is increasing. There's a difference between what is easy and what is right, it's high time we all make a call.

I predict a riot

Sonali Chowdhry

'Ethnic riots sweep Assam as the clash continues between the indigenous Bodos and the Bengali speaking Muslims.'
'Violence erupts in Greece as anti-austerity protestors clash with riot police ahead of key vote on spending cuts.'
'The battle for London- the madness spreads as unemployed youth, the product of a crumbling nation and an indifferent political class riot and pillage.'

Headlines such as these accompanied by images of burning buses and vandalized private property often emblazon the front pages of our newspapers. Some puzzling questions linger on in our minds- what goes on in the mind of the rioter? Are they even rational thinkers? Could there be a rational decision making process which determines whether an individual remains neutral or becomes a member of the rioting mob? These are the questions I seek to explore.

Starting with a basic definition-an individual is rational if his/her preferences are utility maximizing, internally consistent and if he/she seeks to maximize the net gain in the most efficient manner possible. At first glance, riots defy any rationale. What could drive a person to participate in such destruction, knowing the high costs involved for the nation as well the individual? Two economic theories attempt to explain the decision making process involved- the riot threshold model and the dual processing model.

The Riot Threshold Model

According to this model, the following relation determines the mechanism by which an individual decides whether to participate in the riot or remain neutral.

$G = R + E(n) - P(n) - I - C$

G= Net gain (or loss) to individual from participation in the riot rather than remaining neutral.
R= Private revenue and reward (e.g. income, power) to individual for participation in the riot.
E= Emotional benefit from participation
P= Penalty imposed on individual for participation in riot.
I = Potential for injury suffered in action.
n= Expected number of persons participating in riot at time of evaluation and decision.
C= Cost of individual's time and other resources

- (R)- Private revenue and reward is independent of the number of people expected to participate as it depends on the individual's ability to steal, pillage and hold on to the looted goods.
- (E)- Emotional benefit derived through the rush of emotional excitement and gratification is increasing in 'n' due to the increased acceptance and encouragement by the group. $E'(n) > 0$
- (P)-As the mob size grows (n increases), the probability of facing a penalty decreases as it becomes increasingly difficult for security forces to effectively stop and penalize the entire group as a whole, giving participants a chance to hide within the numbers. $P'(n)<0$
- I)- As the number of rioters increase (n increases), possibility of injury could theoretically decrease (due to participant's ability to hide within the numbers) **OR** increase (greater chances of a panic run or fatal stampede). Thus in this analysis, I is kept constant.
- (C) - personal opportunity costs of time and effort invested by joining the riot is independent of how many others participate i.e. it is independent of n.

An individual will become a rioter if and only if the benefits of participating (rewards and emotional benefits) are strictly greater than the costs involved (possible penalties, injuries and opportunity cost of time and efforts invested).

$R + E(n) > P(n) + I + C$

As n increases,

- emotional benefits (E) are increasing
- potential for penalty (P) is decreasing

Thus, as the number of people participating in the riot increase, net gain of participation (G= R + E – P– I –C) increases as R, I and C are constant. Beyond some n=n*, perceived benefits will exceed costs and the person will want to participate. Thus, an increase in number of people participating increases the probability that another person will join. This explanation is consistent with rationality as rioters undertake a full and deliberate cost benefit analysis to form their decision and do not regret their decisions later on.

The Dual Processing Model

This is another model for understanding the decisions of a possible rioter who is presented as less rational as compared to the previous model.

During the riot situation, the stress levels are high and sufficient to restrict thinking to a short sighted intuitive level. Thus in a riot situation, a person tends to reason 'intuitively' and not 'deliberately' focusing on short-run costs and benefits (the instant emotional and monetary gains) while long-run costs such as damages to infrastructure, possible penalties imposed by authorities and injuries are discounted or ignored. Thus intuitive thinking dominates over deliberate and reflective reasoning and it may result in individuals holding a preference to participate in the short run. The period after the riot ceases has lower levels of stress and

involve both intuitive as well as reflective reasoning in the decision making process. This could explain why many stories of regret emerged among the accounts of those participating in the 2011 London Riots as the full long run costs and consequences of riotous activity are realized.

This area of decision-making is yet to be extensively researched on but nonetheless the two above mentioned models present some striking ideas. The participation of an individual in such riots doesn't stem from a surge of irrationality and a suspension of optimizing behavior but may, in fact, involve a conscious consideration and evaluation of the pros and cons associated with riotous activity.

Understanding 'Gangnam Style'- Economics Style

Mahima Malik
I.P. College, Delhi University

'I work as a finance lawyer, and I'm paid very well (Rs.70,000 approx). My colleagues and I work all day long with investment bankers and private equity people who make more than Rs.1 lakh),so I feel poor'

I've been a proud owner of a Samsung champ s300 phone for over two years. Well, I was, to be real. With all the iphones and Blackberrys and the Ericsons -the gamut of the highly privileged devices that command respect – this champ surely shrinks to a chimp! And that is the power of an exogenous force –which productively shapes our perceptions and even actions. One of the major drivers of an economy is competition –there is interplay of forces in an economy- wherein not only the producers but also the consumers, in a way, constantly compete.

Relative poverty is a conception that people are poor when they are very much worse off than other people in a society. As living standards rise, the level at which people are said to be poor also rises. More aptly, it is the deprivation of certain comforts of life of some people in relation to others.

In the famous article –Catherine Rampell explains the notion of relative poverty. In her study, she visions a society being something like a long street running up a hill, wherein rising altitude implies rising income. And each person evaluates himself/herself relative to his/her neighbours on a horizontal basis (which implies similar income group). But as income rises and the income differences become more pronounced in the same community, what people end up doing is a vertical comparison; precisely an upward one (which relates to different income levels-which is not reasonable). The reference of this hypothesis here is apropos-in the above statement, even when the lawyer is objectively satisfied with his salary, the resultant discontent is because of the comparison with his uphill neighbour- the banker. This gets even more aggressive in an unequal world, as in an egalitarian society, people find other relevant (personal) yardsticks to define their well being. Per se, Conspicuous consumption –of products that are a mark of status and class- become more pronounced as the income ladder reaches new heights, as in a developing economy characterised by rising income levels. This manifests into a full grown paradox- a society where the 'winners are whiners'!

In the wealth of nations, Adam Smith identifies the inherent problem in concept

of relative poverty through the famous linen shirt example- if you cannot afford a linen shirt ,but not being able to afford a linen shirt marks you out as being poor, then in that society you are poor if you cannot afford a linen. When defining poverty in relative terms, it does not reflect the real poverty. Nonetheless, understanding relative poverty puts light on the exogenous factors influencing the demand of consumers for certain products and explaining consumer 'misbehavior' to a decent extent.

One such is the curious case of demand for counterfeit (fake) products. Ask a label ho- "Jimmy Choo?", and pat will come the reply- "Jimmy Who?!" Fake products are not fabulous, clearly not fashion and are not even a centimetre close to classy. Fakes have little or no quality or control standards, one does not know where they are from, and if there is any problem, no one will give a hoot. They pose serious threat to manufacturers and retailers of authentic designer products. The range of associated irregularities is indefinite, and so, their demand seems incomprehensible. In his pursuit to fit the bill of the cool and the snazzy, customers overtly buy 'knock offs' of big brands. After all, imitation is the best form of flattery. Here, not so much. The demonstration effect is at work- if your budget constraint is too constrained to own Prada, Gucci, herms, Apple, Rado, Eterna- simply ditch the highroad. They are willing to part their cash for fakes but not local goods. Counterfeit goods take up approximately 6-10% of world trade- and that is a lot!

With the rising level of income, standard of living increases which in turn imply the greater incidence of conspicuous consumption .The term 'deprivation' becomes broader and complex, as the meaning of 'necessity' has an attached subjectivity. The new mantra is-'It's in vogue to spend money'; the Gandhian doctrines of altruism and simplicity are not coming back and the flamboyance is here to stay. Comparison is imbibed in the human psyche and the notion of relative poverty, though not all embracing, is understandable. And now we clearly know the 'economics inspiration' behind South Korean artist, PSY's single, 'Gangnam Style' –which is a critique of conspicuous consumption in Korea in general. It pokes fun at people of Gangnam, Seoul who try to exude a certain supposed "class" .The song is more than just a plump, funny Korean guy dancing a funny step- it unwittingly teaches economics!

Applying Feminist Economics to the Education Sector

Amrita Garai

"Education is not preparation for life; education is life itself."

~ John Dewey

Economics has influenced our perceptions about not only markets and material goods, but also about political and social institutions, such as education. Economic concepts of self-interest, scarcity, maximization, choice, efficiency, value, and competition, originally developed to understand market transactions dominate education policies. Therefore, education economists apply economic constructs to analyze the outcomes of educational investment and the creation of human capital through education.

Certainly the economic model is appropriate for the business side of education and both both economics and

education seek to increase well-being but neoclassical economics' narrow framing of human character, human purpose, and means to achieve well being, are ill suited to convey the complex and transformational goals of the education sector.[1] The goals of educators include not only teaching people cognitive material, but also, more broadly, helping them to fulfil their human potential, initiate an examination of the meaning of their lives, and fulfil their sense of duty and responsibility.

The Evolution of Feminist Economics

The feminist critique began for the purpose of improving women's economic condition. The first feminist economists were John Stuart Mill, Harriet Taylor, and Barbara Bodichon working in the period of the 1840s through the 1870s to theorize women's equality in employment and property ownership. Since then feminist economists have questioned the social constructions of traditional economics, the extent to which it is positive and objective, and provides a tempered form of the prevalent economic constructs.

Feminist economics has emerged with an alternative perspective about the education sector which takes into consideration both the economic and holistic approaches to education. It critiques the three economic constructs that dictate the economics of education and expands it to include teaching practices that are more consonant with the goals of educators.

- **Scarcity and Consumption**

Scarcity is essentially defined as a situation in which needs and wants of an individual or group of individuals exceed the resources available to satisfy them, which then leads to competition. This has been one of the most integral assumptions of economics and has been integrated into the education system by educators worldwide by creating a scarcity of good grades and therefore competition for those grades. The purpose was to foster competition (preparing them for the work scenario where they would be exposed to keen competition and extrinsic reward system) and providing the students with incentives to learn better. Consequently, this grade competition does not promote cooperation in the learning process. But there is no substantial proof to suggest that competing for grades is a better way to learn than co-operation which encourages an unconditional exchange of knowledge.

Educators have essentially created a zero sum game where the students who help others to learn may reduce their own grades. For example, a student with 'A' grade might be willing to help a C or D student because that would not reduce his payoffs but he definitely would not help a B or fellow A student. This attitude inhibits beneficial peer learning.

Robert Slavin (1990) reported that as long as cooperative learning incorporates individual accountability as well as group goals, there are considerable positive effects of cooperative learning methods on student achievement as compared to the achievement of students in a competitive structure. Reduced competition results in more learning by more people (through peer effects as well as through more powerful motivation).

Competition for grades inevitably leads to a conflict between private and social interests, promoting Nash equilibrium as opposed to Pareto efficiency. Pareto efficiency through cooperative learning maximizes the joint welfare of the students which is undoubtedly better for the society and is consonant with the goal of education.

- **Efficiency**

According to neo classical theory, education system is viewed in terms of a production function where the "output" is knowledge, produced by a series of "inputs," the human and capital infrastructure of the education system. Therefore, efficiency in education would be to maximise knowledge. But how do you measure knowledge?

Feminist economists argue that the strategic standardised tests that measure cognitive knowledge are at best an approximation but not conclusive proof of the retention and proper utilisation of the acquired knowledge. The fault lies not only in the examination system (that encourage

short-term cognitive recall) but more importantly in the way efficiency of education is defined and perceived.

"A great deal is lost when efficiency of knowledge production becomes the watchword in education. Creativity does not march to the drum of efficiency. Neither does the attainment of wisdom." Myra H. Strobers

Efficiency in education should not be restricted to the maximisation of cognitive knowledge but should include affective knowledge, emotional intelligence and social skills. Although such variables are difficult to measure nevertheless they should not be completely eliminated from the curriculum. Feminist pedagogy advocates a cooperative setup where factors like class participation; group discussions etc are also evaluated.

- **Value and Well Being**

Adam Smith recognised two types of value: use value and exchange value. Exchange value is the price that a good or service commands in the marketplace. Use value, on the other hand, is the value of a good or service to an individual, regardless of its exchange value. Economists divide the value derived from education into three categories: investment benefits to the individual (exchange value), consumption benefits to the individual (use value), and benefits to society - the external benefits (exchange value). Use value is ignored and exchange value is then equated with value itself on the grounds that economics is interested only in economic value and economic well-being and exchange value comes closes to measuring these concepts.

Therefore, mainstream economists consider education an investment activity, where investment benefit (income) is the return to the investment (fees and time invested). Education increases the individual's productivity which then translates into increased earnings. This increase in earnings is then interpreted as an increase in well-being although economists agree that it is not an exact measure.

Traditional economic constructs have also influenced the budget allocations of the education sector. Subject areas that are associated with earning a living receive the greatest proportion while those subjects that are not associated with vocational development are often starved for resources. For example, since few people earn income by pursuing music and art, these subjects are thought to yield merely consumption benefits and are far more likely to be targeted for budget cuts than math and science, which are viewed as central to preparation for work. In higher education, the humanities suffer at the expense of the sciences.[1]

Feminist economists have challenged this notion of value and well-being. As Myra H. Strobers pointed out, "The struggle to view education as important beyond its human capital investment implications is tied to the broader struggle to stop equating well being with income or GNP."

Moreover, exchange value is not the same as value. Consumption benefits, which include development of emotional and social aptitude, are integral considering building a better society and furthering democracy are one of the primary goals of public education. The emotional and cognitive rewards of community service and the understanding students develop about the non-economic assets of members of the community who are not financially well off are viewed by feminist economics as critical benefits as well despite the fact that they may never be used to create exchange value in the labor market.

In summary, in many instances the economic and education models are at odds. Although both seek to create well being, in practice, economics defines well being much more narrowly than does education and the economic definition often crowds out the more expansive and more difficult to measure definitions of educators. In such a scenario feminist economics helps ease economics imperialistic invasion of education policies. Education needs the insights of economics, but those insights need to be frequently challenged from other social sciences, from the humanities, including moral philosophy, and from feminist scholarship.

References
[1]: "The Application of Mainstream Economics Constructs to Education: A Feminist Analysis": Myra H. Strober

FROM THE EDITORS' DESK

Taxes on Alcohol & Cigarettes

Deeksha Trehan & Aditi Singh

History reveals that commodities which are considered sinful or unhealthy traditionally attract the heaviest duties. In this article, we shall look particularly at alcohol and cigarettes. We shall call those who consume them 'the sinners' and those who abstain from them 'the saints'. The duties levied for the good of our physical and moral well-being we call 'sin taxes'.

The government wishes to curb smoking and drinking because it thinks that society incurs a huge cost due to them. However, this is a myth. The studies which tell the cost that society incurs, known as cost of vice studies, often present grossly exaggerated figures. The temperance group Alcohol Concern, for example, insists that "the cost of alcohol to society is estimated at £17-22 billion, or even as high as £55 billion". The anti-smoking group Action on Smoking and Health says that "the annual cost of smoking to the national economy is £13.74 billion". As Sloan *et al.* note in their book *The Price of Smoking*, "Using the willingness-to-pay value of lost lives, some estimates of smoking-attributable cost have exceeded the gross domestic product of the U.S. manufacturing and health sectors, which is implausible". These studies are dominated by 'costs' which are neither financial nor borne by the taxpayer like intangible costs of premature mortality and emotional distress, lost productivity due to absenteeism, sickness and death and expenditure on the product itself. All these costs are borne by the 'sinner' himself. The myth that smokers and drinkers are leeches on the taxpayer's arteries persists because the government has no incentive to tell the public that these groups are being exploited and the affected industries dare not advertise the savings that come from lives being cut short by excessive use of their products.

The case of alcohol differs from that of tobacco and 'unhealthy' food in so far as there are additional externalities relating to violence, drink-driving and property damage, but these are covered by existing alcohol taxes with several billion pounds to spare. Even if we use the broadest estimates offered to us in British cost-of-vice studies, the publicly borne costs of drinking amount to less than £7 billion a year. Notwithstanding the fact that these figures exclude the benefits of alcohol, this is less than the £9 billion received by the state each year in alcohol taxes.

The intention behind sin taxes is not always genuine. It is seen that governments increase taxes on cigarettes and alcohol when they are in need of quick cash. The USA fought both the World Wars, the Civil War and the War of 1812 on the back of alcohol taxes. In Germany, taxes on cigarettes rose dramatically during the Second World War, until they made up 80 to 95 per cent of the price of a pack. More recently, faced with his own budget deficit in 2009, Barack Obama raised the federal cigarette tax by 156 per cent, despite having promised a year earlier that "no family making less than $250,000 a year will see any form of tax increase". Even during election times, when it comes to balancing budgets, voters prefer raising tobacco taxes to other tax increases or cutting crucial programs such as education and public safety. They are easier to collect than income taxes and less visible than direct taxes. Moreover, tax increases on 'sinful' items are considered to be 'righteous'. These taxes are also motivated by base financial considerations. Various US states and several EU countries have purposefully

lowered alcohol and tobacco duties so as to attract foreign companies.

It is often argued that people who consume alcohol and cigarette put pressure on the existing resources, involve in crimes and cost the government too much by deteriorating community health. But smokers and alcoholics die early. 'Saints', on the other hand, require greater expenditure in pensions, nursing care and welfare payments. Lippiatt (1990) found that every 1 per cent decline in US cigarette sales increased life expectancy by 1.45 million years. But these 1.45 million years added $405 million to the nation's medical costs, whereas a 1 per cent increase in cigarette sales saved $480 million. In truth, the choice is not between vice-related disease and infinite health, but between "relatively cheap lethal diseases or rather expensive chronic ones", as van Baal *etal.* (2008) put it.

The demand of cigarettes and alcohol is highly inelastic. The price elasticity of cigarettes, for example, is generally held to be between -0.3 to -0.5. The consumption price elasticity of alcohol is at around -0.44. Anti-smoking advocates are, however, less interested in the consumption elasticity (how many units are sold) than in the participation elasticity (how many smokers quit altogether). Price rises are less effective in reducing smoking prevalence than in reducing the number of cigarettes smoked. The participation elasticity for cigarettes is around half of the consumption elasticity at -0.1 to -0.3, meaning that a 10 percent price rise should make 1-3 per cent of smokers quit. If the government increases the prices by levying taxes on them, the fall in demand will be very small. Thus, increasing taxes is far more likely to impoverish consumers than it is to turn them into abstainers. Such levies are better seen as stealth taxes than sin taxes.

These taxes are also doubly regressive because they hit the poor harder. Sin taxes are not normally value added in nature meaning that expensive, high-quality products purchased by the wealthy comprise of a much smaller proportion of their incomes in the real sense, but are a major proportion of the incomes of the poor. So, the poor end up paying a greater proportion of taxes. Hence, sin taxes lead to rising income inequalities. A study by RTI International shows that cigarette taxes are financially hurting low-income smokers rather than making them more likely to quit. The survey, which looked at more than 13,000 people living in New York state, found that lower-income smokers in the state spent nearly a quarter of their household income on cigarettes compared with an average 2 percent spent by wealthier New York smokers.

If taxes are increased too much, it will be more likely that people will involve in smuggling cigarettes and alcohol illegally and avoid paying the tax, which will in turn, reduce the revenue and deteriorate health at the same time. Moreover, sin taxes fail to affect consumers' behaviors in the way that tax proponents suggest, for instance increasing smokers' propensity to smoke high-tar, high-nicotine cigarettes when the per-pack price is raised and increasing the rate of people mixing their own drinks rather than buying pre-mix alcoholic spirits.

Additionally, it can be proved that sin taxes are not efficient. To take a scenario roughly analogous to Britain in 2012, let us say that there are ten million smokers paying £7.00 per pack. These ten million people represent 21 per cent of the population. A typical estimate of participation elasticity is -0.23, which means that a 10 per cent price hike should reduce smoking prevalence by 2.3 per cent. Persuaded by anti-smoking campaigners that raising prices is the most effective way of cutting the smoking rate, the government duly enacts a 70p (10 per cent) tax increase. Following the elasticity model, 2.3 per cent of smokers find that they can either no longer afford their habit or no longer find that the benefits outweigh the cost. They quit, thereby reducing the smoking population from 10,000,000 to 9,770,000. 230,000 people have become ex-smokers, but at a great cost to the remaining

9,770,000. Since the average smoker consumes thirteen cigarettes a day, the 70p tax hike will cost them an extra £1.6 billion per year, in addition to existing tobacco taxes. The cost of getting each of the 230,000 smokers to quit is therefore £7,055 each—and this is not a one-off payment, it must be paid every year indefinitely. At an annual cost of £1.6 billion, the smoking rate has dropped from 21 per cent to 20.5 per cent. At best, this would eliminate 2.3 per cent of the cost of smoking, but even if we take the most grossly inflated estimate of what that cost might be, it would be a saving of less than £1 billion. The intervention, therefore, would be loss-making. It is surely plausible that there are more efficient ways of helping people to stop smoking than by transferring large sums of money from the target group to the government. Furthermore, the government has no moral claim to this money on remunerative grounds and the tax fails to modify the behavior of 97.7 per cent of the target group.

Sin taxes, however, have been found to reduce smoking prevalence among the youth. Since young drinkers are more price-sensitive, tobacco tax increases are one of the most effective ways to reduce smoking and other tobacco use. However, the harms from levying sin taxes greatly outweigh the benefits. So, we need to look for alternative methods. One could be the introduction of awareness programs on smoking and drinking, especially in schools and colleges. Furthermore, we can argue that sin taxes will benefit society only if the revenues are used in the direction of alleviating health distress through increased enforcement, health promotion and community action, research and treatment, and not as other taxes are used. Dr K Srinath Reddy from the Public Health Foundation of India said in reference to the introduction of a designated sin tax during the 12th five year plan in India, "It can only work if the sin tax collected does not go into the general revenue pool. It's a good idea and will lead to reduced consumption, especially among people with low disposable income, due to increased prices. The first budget of the National Rural Health Mission actually came from taxes from tobacco." Another, as suggested by Dr. John Spangler of Wake Forest Baptist Medical Center, is that the tax money could be used to distribute low-cost or free smoking cessation medication, or to ramp up tobacco-prevention programs.

A more efficient way would be basing the alcohol excise system on the actual alcohol content in beverages (volumetric tax). If the excise rate is increased for alcohol products generally, then, it should be reduced for low-alcohol products. This would encourage increased marketing of low-alcohol products, which could help in reducing alcohol-related harm.

To conclude, we would just like to say that from an economic point of view, sin taxes are self-defeating in nature. They are only helpful in small amounts of taxes so that the consumption is reduced by small amounts, because if the policy works too well, it will be a problem for the government because it shall lose its revenue source. So the government might like to improve public health, but at the same time, it would not like to improve it too much because of the fear of reducing the revenue earned and the concern for balancing budgets.

References:

1. *Chaloupka F, Grossman M, Saffer H. 2002. The effects of price on alcohol consumption and alcohol-related problems. Alcohol Research and Health Vol.26, No. 1, 22-34.*
2. *Australian Broadcasting Corporation, Cigarette Tax Burdens Low-Income, Doesn't Deter Smoking*
3. *Business Insider, Why Smokers Shouldn't Be Scared Of The WHO's Global Recommendations For Cigarette Taxes.*
4. *The Times of India, Govt. plans to introduce 'sin tax' to curb use of alcohol, tobacco.*
5. *Christopher Snowdon, Adam Smith Institute, The Wages of Sin Taxes*

6. *The New York Times Upfront, Do Sin Taxes Work?*
7. *Sloan et al. The Price of Smoking*
8. *Lippiatt, B. C., 'Measuring medical cost and life expectancy impacts of changes in cigarette sales', Preventive Medicine, 19 (5), Sept. 1990; pp. 515-32*
9. *Van Baal, P. et al ., 'Lifetime Medical Costs of Obesity: Prevention No Cure for Increasing Health Expenditure', PloS Medicine, 5 (2), Feb. 2008; p. 243*

Taxes on Fuel & Plastic Bags

Stuti Oberoi & Amrita Garai

A fuel tax (a petrol, gasoline or gas tax or a fuel duty) is a form of excise tax imposed on the sale of fuels which are intended for transportation, in most countries. Fuel tax rates vary from one country to another due to varying policies. In this segment, we will analyze the consumer behavior associated with it.

Reasons for imposing Fuel taxes

Environment Protection

Due to the increasing problems of climate change and global warming, policy makers around the world have realised that something needs to be done. Fuel consumption is increasing rapidly (at the rate of approximately 4% in India); a major cause being vehicles. They are a leading source of air pollution, generating 13% of global emissions of greenhouse gases. Thus, a reduction in fuel use is needed. This can be ensured by a rise in fuel prices via taxation. Higher taxes can spur cuts in driving, fuel-efficient vehicles, and consequently a reduction in polluting emissions, congestion, and traffic accidents. Although environmental taxes are often considered politically infeasible, Western Europe has experimented with fuel taxes and they did have a significant environmental impact. Fuel prices, and the external environmental costs of energy consumption are predicted to increase significantly in the future due to growing demand and rising production costs, so higher fuel taxes in the present are justified to increase transport system efficiency so that future economy is less burdened by excessive fuel costs. The important question to ask is the extent to which households will alter their behavior when they face higher fuel prices?'

Revenue Generation

The governments of many countries impose fuel taxes as a source of revenue generation. This revenue is diverted towards filling up the fiscal deficits due to the fuel subsidies provided to some sections of society. They help finance transportation programs. Some economists even suggest increasing fuel taxes as part of a revenue-neutral tax shift, which means increasing taxes on resources such as fuel to fund reductions in more economically harmful taxes, such as those on income and investments.

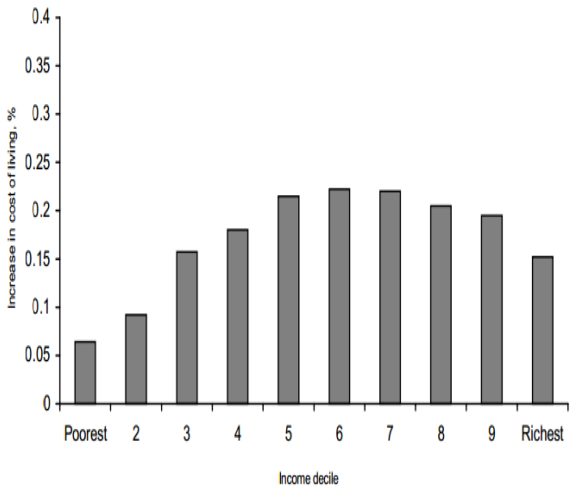
Behavioral impact on consumers and distributive effects of fuel taxes

Fuel taxes have sometimes been criticized on distributional grounds due to a perception that fuel taxes are regressive as they impose a larger burden on poor people. Some studies contradict this argument saying that fuel taxes are in fact progressive. These studies have shown to be varying according to the developmental and income status of countries. We are going to analyze the distributional effects of fuel tax in both developed and developing nations with the help of specific case studies.

Developed Nations

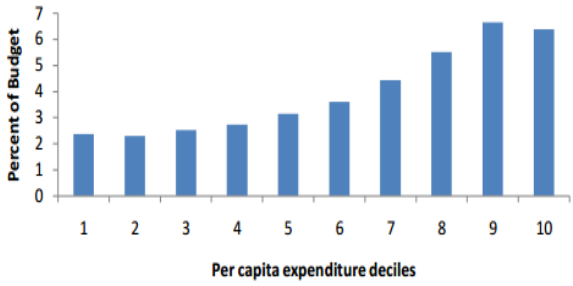
In countries with very high incomes such as US and UK, even poor households have cars- in fact it is the poor who own old, energy inefficient cars. So a common argument against raising fuel taxes is that it would be regressive—poor households would bear an unfair burden. This section examines the effect of the road fuel tax on sub-groups of the population of UK, as presented by Zoey Smith. The effect of a 6% real increase in duties on the cost of achieving a level of economic welfare is analyzed. Households are ranked according to income and divided into 10 equal groups, so the first decile contains the poorest 10%. The effect of the tax increase on the cost of living of the poorest households is smaller than the effect on richer, with the greatest effect being on middle-income households. Repeated increases in fuel duty would have a much larger effect. The distribution of the effects is largely caused by many households in the lowest income groups.

Figure 4. Effect of a 6 per cent real increase in duty on cost of living, by income decile: all households



Developing Nations

Figure 2 : Budget Share of Fuels across MPCE deciles



As seen in the figure, the combined budget share of all fuel products is higher for higher consumption deciles. This indicates that an overall fuel tax would be strongly progressive. In India, kerosene is the popular lighting and cooking fuel in rural areas. But as consumption and income increase, people move towards electricity and gas. So taxes on kerosene are regressive for low-income countries.

When just direct consumption is considered, taxes on transport fuels (petrol and diesel) are highly progressive for both urban and rural sector as they affect the higher income group because poor people don't own cars.

Policy Implications

Unlike a tax imposed for revenue purposes, an environmental tax should be imposed on fuels with elastic demand and on fuels with emission potential. transport fuels demand responds to price changes in the long run. Thus a tax on transport fuels leads to emission reduction without adverse distributional effects.

The effect of the price hike through direct spending on gasoline would be progressive as households in the highest socioeconomic strata would be most affected. By contrast, the effect of the price hike through spending on diesel—both direct spending and spending via bus transportation—would be regressive. Policymakers differentiate taxes on diesel and gasoline. An alternative is to use revenue from fuel tax hikes to subsidize bus travel.

In the final analysis, in deciding whether to raise fuel taxes, policymakers need to balance an array of distributional, political, fiscal, and environmental goals.

PLASTIC BAG TAX

Plastic Bag tax is an environmental levy on plastic bags which aims to rationalize their consumption and production. Mostly it is imposed on plastic bags provided by retailers at point-of-sale or from other outlets. The experience of the plastic bags levy (or PlasTax), in the Republic of Ireland, where the usage reduced by 90%, has encouraged other countries to impose a similar levy. In this segment, we will analyze the policies relating to their plastic bag taxation and the consumer behavior associated with it.

Rationale behind taxing plastic bags

Plastic pollution is the nexus of some of the major environmental challenges facing us today. It is a visible and persistent component of litter pollution, polluting waterways, other natural areas and killing of animals. But the greatest damage is economic—the cost of cleaning up all the bags and the damages caused by them. The major environmental benefits of a levy on plastic bags are reduced littering, reduced use of resources and energy, lower pollutant emissions and increased public awareness of environmental issues. Moreover, rationalizing the consumption of plastic bags will redirect funds to infrastructure and spur entrepreneurial efforts to come up with alternatives to plastic. Therefore, plastic bag tax is used as a policy instrument explicitly aimed at changing consumer's behavior. It is expected that consumers would reduce their usage of plastic bags but the question remains whether it would decrease sufficiently enough to bring about a substantial positive impact.

Case Study of Scotland

Studies and experience suggest that that if only plastic bags are levied, then there would be some shift in plastic bag usage to paper bags which have worse environmental impacts.

A study conducted by the Scottish government quantified the effects under the two levy scenarios:

- Scenario 1: A levy on plastic but not paper bags.
- Scenario 2: A levy on plastic and paper bags

Nature of taxation:

The tax was fixed at an amount sufficiently high to encourage consumers to bring their own 'permanent' reusable shopping bags with them. The study estimated that due to the plastic bags the annual cost to Scottish consumers would be $6.50, which is reasonable and would not act as a burden for the poor.

1. **A levy of 10p on plastic bags only**
   Result: Slightly effective

- In the case of a tax on all plastic bags (including biodegradable ones) plastic bag usage fell by 77%. There was a decrease in annual plastic bag consumption from 6,200 to 620 metric tons.
- But the total tonnage of all carrier bags used and requiring disposal actually increased by 5,409 tonnes (0.26% increase) since consumers substituted plastic bags with paper bags.
- Atmospheric acidification and the risk of litter was considerably less than the pre-tax scenario.

2. **A levy of 10p on plastic and paper bags.**
   Result: Fully effective

- The number of bags entering the consumption stream reduced by approximately 94%
- Including paper bags under the levy spectrum yielded reduction in the tonnage of waste by 4,993 tonnes per year (0.24% decrease).

- Thus, the environmental benefits increased. There were reduced impacts in terms of consumption of water, and emissions of greenhouse gases because paper bags have a higher environmental impact in these categories relative to plastic bags.

Conclusion

Consumption of plastic bags decreased substantially. The study concluded that the environmental benefits were modest when only plastic bags were levied (Scenario 1) compared to environmental impacts when both plastic bags and paper bags were taxed (Scenario 2).

THE INDIAN SCENARIO

The Indian plastic industry is growing at a rate of about 17%, with the total consumption of plastics being about four million tons per annum. Hence, an outright ban would be politically costly because there is already a thriving industry that employs a considerable number of people.

Although policy instruments like consumer awareness and anti-littering campaign have been initiated, the desired fall in wasteful consumption has not been achieved. In general, the policy instruments had an inherent limitation as they primarily sought to achieve this by promoting reuse and recycling.

It is essential to impose a tax on plastic bags to combat indiscriminate use which is the root cause of littering. Including paper bags in the ambit of the tax would accentuate the environmental benefit.

Without regulation, the cost of plastic bags is often hidden in food prices. Hence, even if consumers do not get a bag, they are still made to pay for it. With more transparent taxation, food prices would be lower. It would also ensure that the economic costs of environmental damage are internalized by those responsible for causing the damage through the market mechanism (polluter-pays principle).

Introduction of a price signal through the use of a plastic bag tax can influence consumer behavior significantly but stakeholder and consumer acceptance needs to be ensured. Informational campaigns highlighting the environmental impacts and hypothecation of revenues into an environment fund are central in ensuring such acceptance.

Carbon Taxes

Bhavyaa Sharma & Vatsala Shreeti

There is no question about a significant human influence on the globally rising temperatures, especially through emission of greenhouse gases, particularly CO_2. The consequences are innumerable and ominous, including rising sea levels, severe droughts and floods, increase in precipitation intensity and shifts in the natural balance of species in the ecosystem. In this context, Kyoto Protocol (1997) mandated that industrial countries, by 2008-12, should reduce their overall emissions by 5% from their 1990 levels, with different countries accepting different targets of emission. An important instrument through which many countries aimed to do this was the taxation of energy according to its carbon content, well known as the Carbon Tax. Needless to say, since it addresses the issue of a negative externality, it is a Pigouvian tax which aims to limit or reduce Green House Gases (GHG) emissions and in theory meets the criteria of a good taxation policy by bringing the private costs of emitting CO_2 in line with the social costs of global warming and thus, is

expected to stimulate energy saving and substantial investment in 'Green Technology'. Since energy demand increases with incomes, one can expect the tax revenues to have a positive relationship with income.

At present, having realized the precarious condition of the environment, many countries have implemented carbon taxes in response to commitments under the United Nations Framework Convention on Climate Change. On July 1, 2010 India introduced a nationwide carbon tax of Rs. 50 per metric ton of coal both produced and imported into India. In 2012, a Carbon price of $23AUD per ton of emitted CO_2 on selected fossil fuels was introduced in Australia and the revenue generated was used to reduce income tax and increase the transfer payments slightly. In Europe, most of the Nordic countries have introduced carbon taxes including Norway, Sweden and Finland. However, none of these countries have a uniform carbon tax regime with various exemptions for different industries. In 1993, the UK government introduced the Fuel Duty Escalator, an environmental tax on retail petroleum products designed specifically to reduce CO_2 emissions in the transport sector.

As compared to an energy tax, which is a tax imposed on both fossil fuels and carbon-free energy sources according to their heat contents, carbon taxes do not burden nuclear energy, which could generate large scale electricity without emitting CO_2 in that proportion. Since a carbon tax equalizes the marginal cost of CO_2 diminution across fuels, a carbon tax proves to be more efficient than an energy tax in order to reduce CO_2 emissions since the former effects CO_2 emissions through price effect as well as a switch in fuel choice, while the latter hardly provides any incentives for fuel switching, making it more costly to reduce CO_2 emissions. Jorgenson & Wilcoxen (1993) suggest that in 2020, the US GNP loss from an energy tax would be 20% greater than that resulting from a carbon tax aimed at reducing CO_2 emissions. In order to reflect the rising costs of damages from the CO_2 concentration in the atmosphere and signal the markets that CO_2 emissions will eventually be heavily taxed, so as to incentivize innovations that make even the most ambitious emission targets seem realistic, the carbon tax rates should rise with time. The tax would impose a deadweight loss on a country with no existing distortions in the energy markets. However, when existing distortions from energy subsidies are considered or the revenues generated from the taxes are used to reduce a distortionary tax, as we saw in the case of some countries, the imposition of a carbon tax may also lead to a net gain.

Economists believe that there is a 'double dividend' from carbon taxes:

1. Environmental dividend – through a reduction in emission of pollutants, not only CO_2 but other pollutants associated with fossil fuels combustion.
2. Economic dividend – through a reduction in the overall economic cost of raising government revenues.

This double dividend is further categorized into 'weak' and 'strong' double dividends, which are distinguished from each other in the literature. While the former holds that costs may be saved by using carbon taxes revenues to reduce other distortionary taxes as compared to the case where revenues are returned in a lump-sum way, the latter states that the economic dividend is 'larger than the gross costs' i.e. a 'green tax swap' would be costless since that would lead to a net welfare gain. The 'strong

double dividend' proposition, however, has not garnered universal acceptance from scholars, because of various reasons. The existence of an economic double dividend depends on two effects of carbon tax:

1. Tax- interaction effect: Since carbon taxes add to existing set of distortionary taxes, they may further affect overall employment and investment, thus raising the costs of reducing carbon emissions.
2. Revenue-recycling effect: As shown earlier, carbon taxes may be used to reduce the level of other distortionary taxes, thus producing an economic gain. If the welfare gain from revenue-recycling effect is greater than costs arising from the tax-interaction effect, then there is an economic net benefit i.e., a strong double dividend.

The impact of carbon taxes on the environment has generally been considered to be positive, despite the various problems that hinder an effective estimation of their efficiency. For instance, The Dutch Green Tax commission in the Netherlands calculated that each Euros 450 m raised from its fuel taxes leads to a CO_2 reduction of 1-1.5 million tonnes. However, estimating the effectiveness of carbon taxes simultaneously requires the impact of the different components of the carbon control policy package to be separated out, which is extremely difficult. However, since lower-income households spend a larger proportion of their income on energy than higher-income household do, a carbon tax is expected to have a regressive impact on the distribution of income, if the tax is passed on to the consumers in the form of higher prices for final goods and services. Smith (1992) calculated the distributional effects of a mixed carbon and energy tax at $10/barrel in the UK and concluded that the poorest 20% of the population would have to pay 2.4% of their total spending as increases of tax, as compared to the 0.8% & 1.4% for the average household and the top 20% of the population respectively, thus creating the need for adequate analysis and appropriate political attention in this field. A way of mitigating these impacts is to set a tax free allowance for essential use of energy, to incorporate the fact that some amount of energy is necessary to satisfy basic needs, above which the usage would be progressively taxed to incentivize reduction of energy consumption. Another possibility could be to use the revenues generated to reduce the labor taxes, income taxes or improvise the social-security benefits system so as to target those social groups that do not directly benefit from such tax cuts. At the same time, using revenue from a carbon tax to subsidize household investments that reduce CO_2 emissions would help diminish households' cost of adapting to higher energy prices, though this effect would be more visible in the case of higher-income households. A lump-sum redistribution of carbon taxes to the groups in question could be an option, however many scholars believe that this could reduce the scope of efficiency gains that could be achieved by using the tax revenues to reduce the distortionary taxes.

An alternative to carbon taxes, given the fact that some analysts consider them to have a negative impact on the international competitiveness in the economy; one could also see Carbon Emissions Trading as a possible option. Like a carbon tax, emission trading system is also a market-based instrument. Under this arrangement, emitters have access to emission permits which they can trade amongst themselves. In contrast to the tax, where the emissions adjust with the fixed increase in the price of carbon, here the quantity of carbon emitted is fixed, and the price of carbon adjusts

accordingly. The latter is believed to be preferable when there is uncertainty about the damage function and there is a possibility that it may be very sensitive to greater than optimal emissions. The allocation can be done through auctions and 'Grandfathering' of the permits, which refers to the free allocation of the permits on the basis of some formula related to current emissions. Although, it is sometimes considered to be more efficient than a tax in terms of achieving a target, any relevant policy should combine taxes, permits and other forms of regulation and One affects the basic social consciousness about climate change and global warming.

References:

1. *Dinan, T. (2012),Offsetting a Carbon Tax's Costs on Low-Income Households, Working Paper No. 16, Working Paper Series, Congressional Budget office, Washington, D.C.*
2. *Ekins, P. and Barker, T. (2001), Carbon Taxes and Carbon Emissions Trading, Journal of Economic Surveys, Vol. 15, pp. 325-376.*
3. *Zhang, Z. and Baranzini, A. (2004), What do we know about Carbon Taxes? - An inquiry into their impacts on competitiveness and distribution of income, Energy Policy, Vol. 32, pp. 507-518.*

THINKING SEEDS: GREEN ECONOMICS

Green Trade & Commerce

Manisha Jain

Growing environmental consciousness has generated a parallel interest in liberalization of trade in Environmental Goods and Services(EGS).According to WTO, this has win-win-win objectives: for trade, environment and development. But the realization of these objectives is fraught with many obstacles, especially regarding market access of Developing Countries. Developing Countries are net importers of EGS. Lack of a universally accepted definition of EGS coupled with many other issues has rendered the trade-environment negotiations to proceed at a slow pace.

This article attempts to identify the Environmentally Preferable Products of Export interest to India using trade balance and Balassa's Revealed Comparative Advantage Index.

First of all, owing largely to the dispersed and diffuse nature of environmental goods and to diverging perceptions of how one defines 'environment', environmental goods and services lack a universal definition; which proved to be one of the main barriers to progress in negotiations on liberalization of trade in EGS. However, according to UNCTAD (2003), an Environmental Good (EG) is considered any equipment, material or technology used to address a particular environmental problem or as a product that is itself "environmentally preferable" to other similar products because of its

relatively benign impact on the environment.

Two categories of EGs have appeared in the WTO discussions (Sugathan, 2009):

- ***TYPE 'A; EGs*** -: These are traditional environmental goods required for end-of-the-line pollution abatement. They usually do not have inherently environmental characteristics; it is their ability to provide environmental services that qualifies them as environmental goods. E.g.-air pollution monitoring equipment, furnaces used in incineration.

- ***TYPE 'B' EGs*** -: Environmentally preferable products (EPPs), which include any product with certain environmental benefits arising either during the production, use or disposal stage relative to a substitute or 'like' product. CFC-free refrigerants, chlorine-free paper, compact Fluorescent light etc.

There is no consensus regarding the definition of environmental services as well. The OECD has come up with seven broad groups of ES organized by environmental media (i.e. air, water, soil, noise) and including a distinct category of services like design, engineering, consulting.

History of Trade Negotiations

The foundation of the trade-environment interface was laid down in the Doha Ministerial Declaration, 2001. But so far, WTO members have not agreed on either a definition of environmental goods or, in the absence of a definition, criteria for or an agreed list of such goods. The majority of the goods introduced for discussions have mostly been limited to Type 'A' EGs.
Apart from the definitional and product coverage issues, another stumbling block in the negotiations has been the question of how to liberalize. There have been various approaches discussed so far-list based, project based, request and offer and hybrid approach.

Further, there are some key issues in this regard that need to be addressed:

- The Dual Use Problem: Type 'A' EGs include goods like pumps, valves, tanks and containers, ceramic wares and furnaces used in incineration having both environmental as well as non-environmental uses. It would be natural then that countries will be worried about the import-led impacts of liberalization of dual use goods on domestic industries, trade deficits, employment and tariff revenues; as they may not favor providing differential treatment to the same goods when used for non-environmental purposes.
- Market access to developing countries: A big challenge for the EGS negotiations is to include products of export interest to developing countries (Sugathan, 2009). According to Sugathan, EGs; being capital-and technology-intensive; are perceived to be of export interest only to developed countries and a few middle-income developing economies. Removal of barriers and non-trade barriers (NTB) by Developing countries would serve as an expansion of markets of developed countries and result in tariff revenue losses for the developing countries, which could have been utilized on social issues like poverty alleviation etc. The potential gains for developing countries are largely on the environmental front. It is this fact that had led to the argument that the developing countries do not have much to gain from these negotiations at least economically.

Therefore, in order to involve active participation by developing countries, it is essential to have a balance in the trade positions of developed and developing nations.

Developing countries are believed to have a comparative advantage in producing EPPs and these can secure them an appropriate, share of export gains. There is, however, the risk that a too broad liberalization of EGs would cripple nascent domestic environmental industries in the developing countries due to competition from imports. In the long term, domestic capacity building and technology transfer is more crucial to capture sustainable development gains than just trade in EGS.

Special and differentiated treatment to developing countries

The other possible avenue to make the trade negotiations compatible with developing countries' interests is by giving them special and preferential treatment in the form of lower tariff cuts and longer compliance period to reflect the principle of less-than-full reciprocity. In the Indian context, a burning issue is that of the transfer of Environmentally Sound Technologies. Proponents of trade liberalization argue that trade leads to the transfer of valuable skills, technology and know-how embedded in such goods and services in the long run.
However, tariff reductions can prove to be a disincentive for Joint Ventures(JVs), which are the preferred and most effective way for technology transfer, at least in the case of India (Singh,2004). Reasonable import tariffs are often incentives for foreign investors to set up their production base in a country, but with drastic reduction in tariffs, they may prefer to export goods than open up subsidies/JVs.

The Environment Industry

In 2003, the global size of the environmental market was estimated by UNCTAD at US $500 billion, with the developed countries accounting for about 90 percent while in 2008, the estimated value was US $782 billion (Claro,Lucas,et al ;2007).
In 2005, developed countries imported USD252 billion (68.3 percent) of EG and developing countries USD117 billion (31.7 percent).

As far as India is concerned, in order for India to reap the benefits of Liberalization in EGS from a trade perspective, it is imperative to identify its export opportunities.
In this assessment, 2 key criteria are used –

- The EGS which contribute positively to the trade balance of India
- The EGS in which India has a comparative advantage ; determined by using Balassa's Revealed Comparative Advantage Index (RCAI).

Comparative Advantage is a well-established concept in international trade, and it was first illustrated by Ricardo in 1817. According to the basic tenants of comparative advantage, a country should specialize and export items which they can produce at a lower cost vis-à-vis the world.

The Concept of Revealed Comparative Advantage Index:

The study utilizes the Balassa (1965) measure of computing the RCAI. The Balassa RCAI is the most commonly used empirical measure to analyze trade specialization patterns of a country and is used to 'reveal' a country's 'strong' sectors by analyzing the actual export flows (Balassa, 1977; Yeats ,1997 ; Richardson &Zhang,1999; Yue ,2001;Serin&Civan, 2008; Batra& Khan,2009).
The assumption is that the pattern of exports reflects relative costs as well as differences in non-price factors. The RCAI of country i for product j is computed as the product's share in the country's exports in relation to its share in world trade:

$$RCAI_{ij} = \frac{\frac{x_{ij}}{X_{it}}}{\frac{x_{wj}}{X_{wt}}}$$

Where x_{ij} and x_{wj} are the values of country i's export of product j and world's export of product j and X_{it} and X_{wt} refer to the country's total export and world's total export. (Balassa ,1965)

A value of less than 1 implies that the country has a revealed comparative disadvantage in the product. A value of greater than 1 implies that the country has a revealed comparative advantage in the product.

Limitations of the Study:

The Balassa RCAI suffers from a number of potential drawbacks as an analytical tool. It does not explain what gives rise to comparative advantage-resource endowment, technology etc. Secondly, export growth rates for the different product categories have not been calculated.

Thus, environment protection alone is an insufficient basis to define a negotiating strategy and trade and developmental impacts also need to be analyzed. While negotiating at the WTO; two key areas must be kept in mind by any country:

- Including EGS of export interest
- Strengthening domestic capacity in EGS and improving access to technology

Trade liberalization of EGS opens risks as well as opportunities which must be weighed before arriving at a negotiating position.

India does not stand to gain much commercially in the short run, at least until EPPs are included. Most of the goods are technology and capital intensive and have dual uses as well. Some other goods in which India is expected to have export interests are: raw cotton materials and cotton textiles, apparel manufactured from natural wool and silk fibers, natural colorings and dyes.

EGs targeted for liberalization must be wide and selective (Hamwey, 2005). A broader category will incorporate goods of export interest of developing countries and will be consistent with Paragraph 16 of Doha Mandate. A selective approach would permit developing countries to exclude from liberalization, those goods which are of export interest and require tariff protection while flexibly liberalizing others in which they have clear import and environmental interests. China's Common List and Development List approach can be used to achieve this objective. Another practical approach can be an initiative open for voluntary participation coming into effect when a certain number of members, constituting a specified percentage of trade in EGS, agree. Rest of the members can join gradually. This would be similar to the Information Technology Agreement.
India's Project Approach deserves a special mention as it can bring a synergy between trade and environment goals, and serve developing country's interests by giving policy space to governments and temporary tariff reductions for only those projects whose end use is indeed environmental.

Transfer of Environmentally Sound Technologies (EST) is important as well, perhaps more than trade in just EGS. Intellectual Property Rights serve as barriers to accessing EST and must be weakened to avert the looming ecological crisis. This will be in concordance with principle 20 of the Stockholm conference and the agreement on TRIPS and public health.

Green Accounting & GDP

Soumya Bhowmick,
Jadavpur University

"Prosperity consists in our ability to flourish as human beings --- within the ecological limits of a finite planet. The challenge for our society is to create the conditions under which this is possible…" says UK Economist Tim Jackson.

Our traditional System of National Accounts (SNA), which gives us the measures of GDP, GNP (performance indicators) does not take into account the value of natural resources that are used in the production processes as well as the impact of all the sectors of the economy on environmental degradation; therefore this system gives us and the policy makers a false impression of the wealth, income and performance of a nation. Hence, green accounting is a much desired system which asks for the incorporation of these missing tenets relating to the environment so as to achieve sustainable development in the economy.

1993 onwards, the UN has developed a framework to incorporate green accounting into traditional SNA and the improvisation process continues. For supporting the development of environmental accounts, the UN, European Commission, International Monetary Fund, OECD, and the World Bank issued a handbook in 2003 referred to as the System of Environmental and Economic Accounts (SEEA-2003). There have been two main approaches to green accounting, the first being a method to create separate or 'satellite' accounts that would take care of the valuation of natural resources present, used and depleted, but this account is only linked to and not integrated with the traditional SNA. The latter method talks about completely modifying the traditional SNA and incorporating environmental accounts into it.

In early 1990, The United Nations Statistical Division (UNSD) proposed a new accounting framework referred to as the Integrated System of Environmental and Economic Accounts (IEEA) which integrates environmental accounts into the traditional SNA. The IEEA has led to the conceptualization of green indicators such as the Eco-Domestic Product (EDP) – an environmentally adjusted measure of GDP, instead of traditional performance indicators such as the GDP and GNP which did not have any environmental considerations for an economy. In the long run, the IEEA and green indicators will develop and finally take over the traditional SNA and allow each economy to indulge in an all-inclusive growth that would pave the path for sustainable development and hence secure our future.

Despite the fact the countries such as India face great difficulty in implementing such a concept, as measurement of environmental depletion and valuation of aggregate natural resources is not quite feasible and involves large costs, India's progress in developing such a framework has been commendable. Better accounting should be characterized by environmental considerations and green accounting is the key towards a green economy. Green accounting if executed properly can give us a totally different story about India's GDP which was worth 1847.98 billion $ in 2011.

Recommendations

- Proper segregation of environmental data based on its use

in different administrative units and keeping them updated.

- Accounting dexterity is required to get rid of the problem of double counting in the environmental accounts.
- Effective primary surveys and authentic company documents should be checked to get accurate values of environmental data.
- Delegating and segregating work to groups of economists and accountants with target deadlines for better results.
- Implementation of Government policies so as to promote Green Accounting and its awareness.
- Strict legal policies for companies so that they inculcate green accounts in their company accounts.
- Government should fund a pool of research work on Green Accounting that will add to the resources for faster implementation of this technique.
- Economies should set and work towards target deadlines for full fledged Green Accounting.

References

1. United Nations Environment Programme (1997) : *Global Environment Outlook – 1, Global State of the Environment Report.*
2. United Nations Environment Programme (2011) : *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication - A Synthesis for Policy Makers.*
3. United Nations Economic and Social Commission for Asia and the Pacific (2009) *Eco-efficiency Indicators : Measuring Resource-use Efficiency and the Impact of Economic Activities on the Environment.*
4. INTOSAI – Working Group on Environmental Auditing (2010) : *Environmental Accounting: Current Status and Options for SAIs.*
5. Nick Hanley, Jason Shogren and Ben White : *Environmental Economics In Theory and Practice.*
6. Thomas Titenberg : *Environmental Economics and Policy.*
7. Maniparna Syamroy (2011) : *Accounting For Air and Water Resources: A Case Study of West Bengal.*
8. *http://www.unep.org/search.asp?sa.x=0&sa.y=0&sa=go%21&q=GREEN+ACCOUNTING&cx=007059379654755265211%3Ajkngxjgnyii&cof=forid%3A11*

Mitigation of Climate Change: A Game Theoretical Approach

Osama Safeer

Lahore University of Management Sciences, Pakistan

As the world progresses in the wake of the most happening century in human civilization, suddenly, the earth seems too small a place to hold too many a people – billions of them, who are, as a whole, economically driven to improve the standard of their lives in the material sense of the word. To establish a fundamental point, climate change caused by global warming is not a temporary phenomenon or a passing phase, part of the natural fluctuations of the earth's climatic conditions over time. Kaya's identity directly implies that a more populous

country will inevitably be more likely to pollute more and that a more developed country needs to be more efficient in its energy usage as well as technology of production to offset the increasing effect of greater output on green house emissions. As two general representatives of the developed world, the EU and the USA can be seen to have extremely high emissions per capita and relatively speaking, the developing countries can do little to cut down emissions since they are not heavy contributors in the first place. Even historically the increase in greenhouse emissions can be traced to industrial revolution and the countries that enjoyed high growth rates as a result of it, since we have already proven that emissions, and hence global warming, are caused singularly by growth in total economic production in terms of fuel consumption. Therefore, it can be established that developed countries have developed at the expense of climatic change and continue to do so.

Economic theory predicts that market mechanism is unlikely to guarantee a solution in that aspect as managing the environment presents the classic case of market failure in the form of tragedy of the commons. Similarly, the entire planet benefits from the reduction in emissions by any single agent, since climate change mitigation meets the non-excludability and non-rivalry criterion of a public good. Therefore, there is incentive for every agent to free-ride, and wait for the others to take action, as a result of which efforts to reduce global warming will always be underprovided. The source of market failure lies in the absence of political collectivization and alignment of interests under a cooperative framework. The idea of marketable permits inspired by Coasian solution to assign private rights to externality could be applied, but that cannot be achieved globally since there exists no single universal authority. Any settlements between countries are purely voluntary and based on self interest. Together with the political strategic considerations involved, the issue forms a classical case of the prisoner's dilemma scenario.

The prisoner's dilemma can be applied to the problem of mitigating climate change. From an individualistic paradigm of analysis where player one is one economically active agent and player two refers to the set of all other economically active agents in a defined system.

Let our lone economic agent P1's strategies be defined by:

$P1_j \ \ where\ j = \{`cut\ emissions', `continue\ pollution'\}$

Similarly P2's strategies are:

$P2_k, where\ k = \{`cut\ emissions', `continue\ pollution'\}$

The payoffs, $\pi 1_j$ & $\pi 2_k$,respectively are described as follows:

P1 \ P2	**Cut Emissions**	**Continue Pollution**
Cut Emissions	Improved Environment for everyone; moderate and sustainable levels of development.	P1 loses out on forgone profits, others reap high economic profits as well as sharing the benefits of P1 cutting pollution.
Continue Pollution	P1 reaps commercial success AND	Everyone disregards environmental

	free rides on a better environment ensured by reduced emissions of others. Others save the environment but face heavy private opportunity cost.	considerations, attains private gains but the environment suffers. Not the best outcome, but better for P1 than getting stuck forgoing profits for nothing while the others' cheating continues environmental hazard.

We see that from an individualistic paradigm, the Nash equilibrium outcome is continued pollution from each member of the set of all economically active agents. Similarly, it would be rational for each government to not make serious efforts to implement laws, create regulations on industry or invest in green technology, since that would come at the cost of forgoing opportunity of economic growth.

However, other forms of political collectivization exist to further economic interests. In the context of mitigation of climate change, a most interesting and widely debated framework is that of collectives of developing vs. developed nation. It is pleaded that developing countries have more to lose by foregoing economic development in favor of environment, compared to the developed since the former has chronic issues such as poverty and poor health facilities to address while the latter has a smaller incremental improvement in its quality of life to forego from emission cuts. The costs of cutting emissions are also higher for the developing countries, since they are far behind on the learning curve of environment friendly technologies. Climate change will hit the developing countries harder. Developed countries are historically to blame for bringing the sword of climate change so close to everyone's neck by rampant industrialization. Nash Equilibrium occurs for both players continuing to pollute, since for each strategy of the other block, each block has an incentive to continue polluting. Unless there comes to form a real enough political pressure on the developed countries that can be translated into an economic cost in terms of 'punishments' that are imposed by developing countries and the countries currently in transition, economic rationale surrounding the situation will remain the same.

Economic theory predicts that nothing will change unless economic incentives and payoffs do. Encouragingly, there is a growing realization that limits and quotas must also be coupled with punishment (The Economist, 2007). Interestingly, economic theory already suggested this 'responsive' approach, where cooperators are collaborated with for mutual benefit, and cheaters are punished. In context of climate change, the game is 'played' *repeatedly*, or even *continuously* every time there is major decision regarding energy production, or regarding environmental legislation, or every year at conferences on environment. This is called the Iterated Prisoner's Dilemma (IPD) Case, wherein a country cannot simply cheat-and-run; knowing that managing the environment is an issue over which it has to engage with the rest of the world repeatedly over time – 'forever and ever', to be exact. While the dominant strategy for each game in this iterated continuum still remains to cheat, but the fact that the game will be played repeatedly for *unknown* number of times means that countries will be able to respond to each

other's actions, form strategies over time, have the opportunity to collaborate and cooperate. An alternate outcome than the disastrous continued pollution by everyone is possible, based on the increased weight of future outcomes as the payoffs for strategy *(continue pollution, continue pollution)* continue to worsen.

Since dramatic climate changes, displacement of billions of people and sinking of metropolitans is no small negative pay off, therefore growingly (cheat, cheat) begins to give the payoff's of a disaster as well. The payoffs grow so low and the weight attached to the future grows so high that (cheat, cheat) ceases to be an equilibrium and countries, out of their own incentive, will be pushed away from such a strategy. The countries are now set forth in a dynamic game, not happy to be mutually irresponsible but still battling to beat the other, and not yet settling for mutual cooperation. Surprisingly, then, the simplest strategy 'tit-for-tat', which simply responds to cooperation with cooperation and punishes deception with defecting itself as well, turns out to be mutually and individually beneficial in the long run. Hence cooperation is evolved in a framework where deception seemed as the only rational option in a non-iterated setting and impending doom breaks away the equilibrium from (cheat, cheat) as there is a simultaneous growth in incentive to cooperate.

Each passing year is like another iteration of the game, with time to get emissions in check consistently running out. Unfortunately for developing countries, to create an analogy with prisoner's dilemma, they have a bigger stake, are the faint-hearted of the two criminals, and worse, were barely involved in the crime in the first place that landed them in this situation! Both for their own benefit and for that of world at large, it is important to exert substantial political and social pressure – since, with the corporate sector's interests aligned even more firmly to short run profits, only government regulations and policies can have meaningful impact. Theoretical possibility of a breakthrough exist, where incentive would actually be to begin cooperating and caring for the planet – but whether that would happen before the tipping point when it is too late or not remains the biggest question.

References

Axelrod, R. M. (1984). The evolution of cooperation. New York: Basic Books.

Essential Background . (n.d.). United Nations Framework Convention on Climate Change . Retrieved November 13, 2012, from http://unfccc.int/essential_background/items/6031.php

Clemons, E. K., & Schimmelbusch, H. (2007). The Environmental Prisonersâ€™ Dilemma Or Weâ€™re All in This Together: Can I Trust You to Figure it Out?. Philidelphia: Wharton, University of Pennsylvania.

Koudstaal, R., Werners, E., Ahmed, D. A., Rahman, D. A., & Huq, D. S. (1999). Executive Summary: Considering Adaptation to Climate Change towards a Sustainable Development of Bangladesh (p. 1). Washington, DC: South Asia Region, The World Bank ,.

Narain, S., Ghosh, P., Saxena, N., Parikh, J., & Soni, P. (2009). Climate Change: Perspectives from India. N.A,: UNDP India.

Ritholtz, B., 2010., & 3:00PM. (n.d.). History

of World GDP | The Big Picture. The Big Picture. Retrieved November 20, 2012, from http://www.ritholtz.com/blog/2010/08/history-of-world-gdp/

CO2 emissions (metric tons per capita) | Data | Graph. (2012, November 21). Data | The World Bank. Retrieved November 21, 2012, from http://data.worldbank.org/indicator/EN.ATM.CO2E.PC/countries/1W-8S-XL-EU-US?display=graph

Dasgupta, S. (2007, February 3). Warmer Tibet can see Brahmaputra flood Assam. Times of India. Retrieved November 15, 2011, from http://articles.timesofindia.indiatimes.com/2007-02-03/india/27885314_1_himalayan-glaciers-yarlung-tsangpo-qinghai-tibet-plateau

Jha, A. (2009, December 18). Copenhagen climate summit: Five possible scenarios for our future climate. The Guardian. Retrieved November 24, 2012, from http://www.guardian.co.uk/environment/2009/dec/18/copenhagen-five-climate-scenarios

Khan, S. (2012, January 25). Effects of Climate Change on Thatta and Badin. Environmental news | Civil news | Health Tips. Retrieved November 15, 2012, from http://envirocivil.com/climate/effects-of-climate-change-on-thatta-and-badin/

Lawrence Berkeley National Laboratory, United States. Sathaye, Jayant, ., Kobayashi, S., Grubb, Michael, ., Gupta, S., Levine, M., ... COLLABORATION - IPCC. (2007). Summary for Policymakers IPCC Fourth Assessment Report, WorkingGroup III. Berkeley, Calif: Lawrence Berkeley National Laboratory.

National Academies. (2008, December). Highlights of National Academies Reports. Understanding and Responding to Climate Change, N.A., 1-6. Retrieved November 18, 2012, from http://dels.nas.edu/resources/static-assets/materials-based-on-reports/booklets/climate_change_2008_final.pdf

Sethi, N. (2007, February 3). Global warming: Mumbai to face the heat. Times of India. Retrieved November 15, 2011, from http://articles.timesofindia.indiatimes.com/2007-02-03/india/27877261_1_climate-change-global-warming-gdp-growth

Parry, M. L., Intergovernmental Panel on Climate Change., & Intergovernmental Panel on Climate Change. (2007). Climate change 2007: Impacts, adaptation and vulnerability. Geneva: IPCC Secretariat.

The Economist (2007, September 27). Playing games with the planet. The Economist. Retrieved November 15, 2012, from http://www.economist.com/node/9867020?story_id=9867020

Environmental Policies- A Problem of Strategic and Coordinated Implementation

Shomak Chakrabarti
Presidency University, Kolkata

Global warming and greenhouse gases are terms familiar to almost everyone living in this century. South Asia is no exception to that. In fact, South Asia has been a major contributor to these problems. The total amount of carbon dioxide emitted by South Asia has almost doubled from 735 million tons in 1990 to 1264 million tons in 2002. This increase can be attributed to increasing energy demands, especially by thermal power plants and the automobile sectors as well as industrial emissions. Industries in South Asia have paid negligible attention to the latter while taking measures against pollution. At the same time, the contribution from individual households, arising particularly from the use of wood, charcoal and kerosene oil as household fuels coupled with inadequate ventilation, has had a detrimental impact on the air quality that surrounds us. The resultant highly contaminated indoor air is often a more severe health hazard than outdoor air pollution. High levels of urban air pollution have attracted growing attention from the government, civil society, and industry in South Asian countries. In India, the Environment Protection Act of 1986 clearly jots down the rules and regulations that are to be followed in order to prevent the pollution of the ecological system. It provides for the Environmental Impact Assessment to ratify a project before its implementation. Similar laws regulate the pollution levels of all the member states of South Asia. However, all these countries have a high pollution level. When one starts tracing the roots of this paradox, we see most of the aforementioned environmental legislations having analogous geographic restrictions. This myopic behaviour on the part of the countries' policy makers have often led to the age of the economic problem of "the tragedy of commons". Natural resources like air and water cannot be confined to a particular country and with the current policy framework; each country would try to benefit from the hard work of the other countries without paying for it, thereby leading to the tragedy of commons.

This article thus shows that a grand coalition of the entire member states working together to solve the problem of air pollution or any form of air pollution will lead to a socially desirable equilibrium.

The model builds a skeleton of an international economy, denoted by E. The total number of agents in the economy is given by i. The agents are partitioned into the K countries, with i_k denoting the number of agents living in country k. Thus, it follows that $\sum i_k = I$. Each country k produces some amount of private goods, $y_k = g_k(p_k, k)$ using the inputs capital (k_k) and a pollution emitting input (p_k). The accumulation of capital is given by the standard equation $k_k = (1-\mu)k_0 + e_k$; where e_k is the investment in each country, k_0 is the initial stock of capital which is given for

$$G_{kk}<0,\ g_{pp}<0,\ g_{kk}g_{pp}-g_{pk}g_{kp}>0$$

From the National Income Identity C=Y-I, Consumption in country k would be given by $x_k = g_k(p_k,k_k) - e_k$. The countries in the economy E would therefore have a social preference ordering described by the utility function $u_i = v(z).(g_k(p_k,k_k) - e_k)$, where

$$z = -(1-^{\varphi})z_0 - \sum p_k$$

denotes the overall ambient pollution level in the economy, z_0 being the initial pollution stock and $^{\varphi}$ being the natural rate of degradation of the pollutants. v(z) denotes the valuation of the environmental quality by the agents in the economy E. We

maintain the standard assumptions of a neoclassical type utility function.

A feasible set in the international economy is a vector $(x,p,z) \in RxR^kxR$ such that
$\sum_k(g_k(p_k,k_k) - e_k) \geq \sum x_i$ and
$z = -(1-^{\varphi})z_0 - \sum p_k$.

A feasible set basically implies that the supply of private goods must not be less than the demand for the private good by the agents in the international economy and that the ecological damage function incorporates the pollutants emitted from all the countries that make up the international economy.

A Pareto optimum of the international economy E is a feasible state (x,p,z) such that there exists no other feasible state (x^*,p^*,z^*) for which agents attain a higher utility.

Mathematically, the Pareto optimum feasible state of the economy can be solved by maximizing the joint utility function of all the agents in the countries that make up .

We proceed to describe the building blocks of the international economy E– the individual countries. These countries can be considered to be a sub-economy of E, formally denoted by, $E_k(p''_{-k})^{\forall k}$, and are obtained by restricting the set of agents to and for a given vector of polluting inputs other than the country k itself, i.e.,$p''_{-k} = (p_1,p_2,\ldots p_{k-1},p_{k+1},\ldots p_k)$. It is natural to believe that, by itself, India will have no control over the amount of pollutants released into the environment by Bangladesh or Pakistan. In what follows, we will use the term individual country k and sub-economy $E_k(p''_{-k})$ interchangeably.
A feasible state in the country k, is a vector (x,p,z) such that,
$(g_k(p_k,k_k) - e_k) \geq \sum_i x_i$ where $i \in i_k$
$p_{-k} = p_k = (p_1,p_2,\ldots p_k)$ i.e. pollution levels of other countries are given and,
$z = -(1-^{\varphi})z_0 - \sum_j p_j - p_k$ for $j \neq k$ and $j \in I$.

The feasible state of a country is again simply the fact that the supply of the private good in the country is never less than the demand of the private good by agents living in country k .

Now we proceed to find the Pareto optimal solutions to both these cases. For the international economy, the Pareto optimal solution is obtained by maximizing the joint utility of all the individuals that live in all the countries that comprise the international economy. Mathematically, it can be shown as follows:

$$Max \sum_i u_i = \sum^{\square} {}_i[v(z)(g_k(p_k,k_k) - e_k)]$$

where $i \in \{1 \ldots\ldots i\}$ subject to $z = -(1-^{\varphi})z_0 - \sum p_k$

& $k_k = (1-\mu)k_0 + e_k$.

Solving the first order conditions, we get the Pareto optimal levels of investment and pollution emitting input,

$$p_z^0 = p_z^0 \quad (.)$$

$$t_z^0 = t_z^0 \quad (.)$$

It is quite easy to show that the Pareto optimal allocation of the international economy E (x^0, p^0, z^0) exists and is unique.
As for the domestic economy or the sub-economy, the Pareto optimal solution is obtained by maximizing the joint utility of all the agents living in that country. It is formally shown as below:

Max $\sum_i u_i = \sum_i[v(z)(g_k(p_k,k_k) - e_k)]$ where $i \in \{1 \ldots\ldots i\}$

Subject to $z = -(1-\varphi)z_0 - \sum_j p_j - p_k$ for $j \neq k$ and $j \in i_k$ & .$k_k = (1-\mu)k_0 + e_k$.

Solving the first order conditions, we get,

$$p_z^* = p_z^* \quad (\cdot)$$

$$t_z^* = t_z^* \quad (\cdot)$$

Analogous to the case of the international economy E, we can conclude that the optimal solution to the maximization problem for the sub-economy exists and is unique due to the neoclassical assumptions.

The feasible state of the sub economy E_k $(p_1(-k)^{T*})$ induced by the Pareto efficient allocation (x^*,y^*,z^*) is called the political equilibrium of the sub economy.

Once the political equilibrium for the sub-economies are determined given the vector of external emissions, we can indeed find the state of the international economy E that can occur in the absence of any form of international co-ordination. An international noncooperation equilibrium is defined as a state of the economy (z,p,x), such that for all k in the state, (x^*,y^*,z^*) is a political equilibrium of the sub-economy $E_K(p''_{-k})$.

In this case, each country acts as benevolent social utility maximizers and maximizes the utility of the agents living in their respective countries. This can be explained in the form of a non-cooperative game with the countries acting as players in the game. The strategy of country k is a vector $T_k = \{(p_i,x_i)\ 0 \le p_i \le p^*\ ,\ 0 \le x_i \le x^*\}$, for $i \epsilon i_k$. Thus $T = \Pi_k T_k$ denotes the joint strategy space of the entire k-person game. The payoffs of the players can be the joint utilities of all the agents living in that country. Hence, the payoffs of each country k is given $u_k = \sum_i u_i$ for $i \epsilon i_k$ and for all $k \epsilon K$, $U = \Pi_k u_k$ denotes the joint payoff space of the game. This completes the structure of the k-person non-cooperative game defined in its characteristic form by [k, T, U].

For this game [k, T, U], the joint strategy choice $[(x_1,p_1), (x_2, p_2) \ldots\ldots (x_i, p_i)]$ for $i \epsilon i_k$, is a Nash equilibrium for country k (or sub-economy $E_k(p''-k)$) if it maximizes the joint utility function of all the agents living in country k. The optimization problem can then be written as,

Max $\sum_i u_i = \sum_i [v(z)(g_k(p_k,k_k) - e_k)]$ where $i \in \{1 \ldots\ldots i\}$ for each $k \epsilon K$
Subject to $z = -(1-\varphi)z0$ – for $j \neq k$ and $j \epsilon i_k$
and $k_k = (1-\mu)k_0 + e_k$

It is worth noting that the above equations are identical to the solution of the Pareto optimal allocations of country k. So the solution to this problem is identical to the Pareto optimal problem done before. Therefore the solution is:

$p_z^* = p_z^*\ (\cdot)$
$i_z^* = i_z^*\ (\cdot)$

We can conclude by saying that the k-person non-cooperative game produces a Nash equilibrium where each country's strategy is to produce their Pareto optimal allocation, given the vector of emissions from the other countries. Although one might tend to conclude that this Nash equilibrium is a socially desirable equilibrium, we see that this Nash equilibrium is not compatible with the Pareto optimal equilibrium of the international economy E. Comparing the two cases, we can say that the net investment on capital goods is indeed the same in both the cases and thus the Nash equilibrium gives us an international political equilibrium for capital goods. But the same cannot be said about the pollutant emitting input. We first note that $i_k \ll i$. Hence from the well-known theory of diminishing marginal returns to inputs, we can say that the Nash equilibrium pollutant emitting input allocation is larger than the Pareto optimal level in the international economy E as a whole . Formally, this can be written as,

$$(p_z^* = p_z^*(.)) > (p_z^0 = p_z^0(.))$$

We can coin this apparently peculiar anomaly as the **Pinocchio Paradox**. This is a paradox that the famous character from English Literature called Pinocchio falls into. In terms of our paper, suppose the Environment Board announces that the pollution emitting level is more than the Pareto optimum level. The government, benevolent to its citizens, brings the allocation to its own Pareto optimum level. But because the government is not seeking to bring the allocation to the international Pareto level, the polluting input level is still higher than socially desirable. Hence a paradox – the government claims it has reached Pareto, yet the polluting input level is above Pareto optimal!

The inefficiency of the non-cooperative equilibrium gives us some incentive to look

into the matter of international cooperation in the form of international agreements to improve the allocation of polluting inputs in the international economy E. The basic aim of an international agreement, through a co-operative pan and contracts binding to the nations that agree to them, is to try and achieve the Pareto optimal allocation level of the international economy and share the costs involved in such a change in allocation between the countries involved. Formally, an international agreement among the countries K or a subset of it is a pair $(\Delta p, \alpha)$ consisting of a vector of emission changes $(\Delta p = (\Delta p_1, \Delta p_2, \ldots\ldots \Delta p_k))$ with respect to international non-cooperation levels such that $\Delta p_k \in [-p_z^* - (p_z^* - p_z^*)] \forall k$, and a total cost sharing rule $\alpha = (\alpha_\downarrow 1, \alpha_\downarrow 2, \ldots . \alpha_\downarrow k)$ such that $\alpha_k \in [0,1] \in \forall k \; and \; \sum_k \alpha_k = 1.$

In terms of foregone consumption, the total cost of allocation change is given by :

$$C(\Delta p) = \sum_k [\![[g_k(p_z^*]\!], k_k) - g_k(p_z^* + \Delta p_k k_k)]$$

The induced environment quality after the International Agreement will thus be

$$z(\Delta p) = -(1-\varphi) z_0 - \sum [\![(p_k - \Delta p_k]\!])$$

Thus, the utility of each country k in the international economy E becomes

$$u_k = \sum_i [\![u_i(z, x_i) = v(z(\Delta p)) \sum_i [g_k]\!] (p_z^*, k_k) - e_k - \alpha_k^i \left\{ \sum_k [\![[g_k(p_z^*]\!], k_k) - g_k(p_z^* + \Delta p_k k_k)] \right\}]$$

For an international agreement to come into existence, the countries must be involved in some collective decision making process. This can be done at two separate levels – the domestic level and the international level. In short, each country ratifies a particular international agreement by means of simple majority voting. In the simple majority voting games, there would be a winning coalition that which declares a particular vector of abatements and a cost sharing rule α which is its Nash Equilibrium. For any international agreement involving all countries, the co-operative game $[k, W_k, \alpha_k^*]$ is the ratification voting game bearing on the cost share α_k^* to country k. with k denoting the number of countries in the international economy E. W_k simply denotes all the subsets that contain the majority of the countries forming the international economy.

The optimal value of the cost sharing rule given by the maximization of the game will be given by,

$$\frac{g_k(p_z^*, k_k) - e_k}{(\sum_k [\![\{g_k]\!] (p_z^* + \Delta p_k \, k_k\})]}]$$

This basically leads us to the conclusion that the international agreement ratified by the countries depends on the consumption pattern of the private good in each country. A country with more consumption of the private good requires a larger amount of pollution emitting inputs and consequently has to bear a larger cost to bear the damage to the environment. For at least one country, the cost of abating the pollution emitting input to the international Pareto optimal level must be positive. Thus there exists a country k (or sub-economy $E_\downarrow k \; (p_\downarrow(-k)^{\uparrow *}))$ for which $\left[g_{(k(\square) p_z^* k_k [\![\square) - g]\!]_k [\![(p]\!]_z^* + \Delta p_k k_k)} \right] > 0$

For that country, the consumption of private good is obviously lower. Hence higher utility is reached at the Pareto optimal level only through improvement in environmental quality, i.e., through the function $(z(\Delta p))$.

With the knowledge of the international agreement ratified by the countries given to us, we proceed to see which winning coalition will ultimately be formed in the international economy. This leads us to the coalition formation game with the countries as players. The countries act simultaneously and announce a coalition to which they wish to belong. Any defection from a coalition induces the remaining players to split up as singletons. In the context of this coalition formation game, we may restrict our strategy choice to only those that will be ratified by the individual countries. Any other international agreement will not be ratified by the individual countries and thereby will not lead to a political equilibrium in the respective country. Once

a coalition is announced, ratified agreements are automatically generated by the majority voting game in each country. As a result, we associate with each coalition structure a series of international agreements with the property of being simultaneously ratified by the respective countries. For each coalition structure, there exists a unique ratified international agreement.

The strategy profile for which all the countries declare the grand coalition is a Nash equilibrium of the coalition formation game. Any country acting as a singleton would definitely be closer to the Pareto optimum of the international economy if it decides to become a member of the coalition. Similarly, there would be no incentive for a country within the coalition to deviate from it. Hence the grand coalition would ultimately lead to the Pareto efficient outcome of the international economy. the solution to the optimization problem of the coalition formation game would then be a replica of the Pareto optimum optimization problem for the international economy. Thus the cooperative game and the coalition formation game will ultimately lead to a political equilibrium in each country as well as a political equilibrium in the international economy.

The cost sharing ratio for the countries in the international economy would depend on the consumption pattern of private goods in the respective countries. While it is possible to transfer some amount of private good, a better way to bring about the sharing of costs is to issue pollution permits in proportion to the costs borne by each country. This would bring us to the topic of markets for pollution permits. It is worthwhile noting that implementing the Gale-Shapley algorithm of deferred acceptance would ultimately lead to efficient solutions. Following this algorithm, when polluting countries offer the non-polluting countries to buy pollution permits from them, through a proper mechanism design, none of the polluting countries will have to go for their least preferred choice, leading to optimal strategies in the market for pollution permits.

Although some countries may refrain from revealing their true preferences, but Shapley has shown that there will exist a revelation principle in which showing the true preferences will be the optimal Bayesian strategy for every country.

Pollution regulation acts have been implemented in almost every country in the world and the list of pro-environment innovations is never-ending. However, we have been myopic in our behaviour. While we may be striving for Pareto optimal allocations within our country so as to maximize our own social welfare, we duly forget that we are part of a single planet called the Earth. The Pareto optimal allocation of many countries taken together will not coincide with the Pareto optimal allocation within individual countries. In the absence of international co-operation, the pollution levels in the economy will not be Pareto optimal for the international economy, even though each country individually attains Pareto efficiency. International cooperation in the form of a grand coalition of all the countries will induce the countries to produce at the Pareto efficient levels of the international economy. The international agreement reached by the countries in the coalition will be ratified by each individual country through majority voting, thereby leading to a political equilibrium in each country. The cost of abating pollution can also be efficiently shared through proper design mechanisms. What the countries need to pay attention to now is the development of appropriate mechanisms to ensure Pareto optimality.

References:

1. "Strategies for the protection of the environment",C.Carraro,andD.Siniscalco (1993), Journal of Public Economics.

2. "Stable international agreements on transfrontier pollution with ratification constraints", S.Currarini, H.Tulkens

3. "Game theory and International Environmental Cooperation", M. Finus, New Horizons in Environmental Economics.

4. "Microeconomic Theory", A.Mascolell, M.D.Whinston, J.R.Green, Oxford University Press

5. "An introduction to Game theory", M.J.Osbourne, Oxford University Press

6. "Economic Growth", R.Barro, X.Sala-i-Martin, McGraw- Hill,Inc.

7. "ClimateChangeandGameTheory: A MathematicalSurvey",P.J.Wood

8. "South Asian Environment Outlook (2009)", UNEP, SAARC

9. "Thimpu Statement on Climate Change", Sixteenth SAARC Summit, April 2010.

10. "The Environment (Protection) Act 1986", India.

11. "Environment Protection Act 1997", Nepal.

Plugging the Demand Supply Gap in the Power Sector- the 'Green Way'

Charvi Kain

Lady Shri Ram College, Delhi University

"What gets us into trouble is not what we don't know,
It's what we know for sure that just ain't so"
– Mark Twain

We live in a digital world. Everybody is so 'connected'. Power is the base for growth now. From homes to mills and from villages to megacities, people are heavily relying on 'power' to facilitate their needs and wants: politicians get the 'powerful' ticket by launching yet another promising village lighting project, women and children get 'empowered' by access to electricity, water, proper sanitation etc, and countless businesses both big and small, feed on this most ubiquitous of modern resources to 'rise' higher and higher.

Power is like food, shelter and clothing. Inconspicuous? Maybe, but certainly not abundant. Mark Twain's quote eerily rings true. In the course of researching the electricity industry in India, I have come across a staggering demand supply gap which could have serious implications in the future. Sukhatme (2011) suggests a 'frugal' future annual per capita requirement of 2000 kWh for sustainable development. This, when multiplied by the population estimate of 1700 million, gives the value of 3400 TWh as the minimum requirement of the country by 2070. The electricity consumption p.a. per capita in India is not even 1/10th of that in developed countries. In the next 25 years, India's electricity demand is expected to grow at an annual average rate of 7.4% (World Bank, 2010). The total installed capacity of producing electricity as on 31st Dec '10 was 171,644 MW and electricity produced was 801,828 GWh or 801.8 TWh. We currently are and may continue to rely largely on fossil fuels (mainly coal) to meet our future power needs.

Clearly, the conventional source of power, i.e. coal or lignite based thermal plants cannot alone meet the projected demand in the long term. So can we plug this gap with renewable technology like solar, wind, biogas? It is a conscience clear, mess free way of growth, albeit expensive. A little bit of surveying of research in this direction revealed that if the full potential of all the renewable energy resources is exploited in India, this would generate 1229 TWh of electricity, which is hardly 36% of the projected requirement for 2070 i.e. 3400 TWh, Sukhatme (2011). So, howsoever sincere our effort towards greening the

power technology, we cannot rely on renewable energy resources alone.

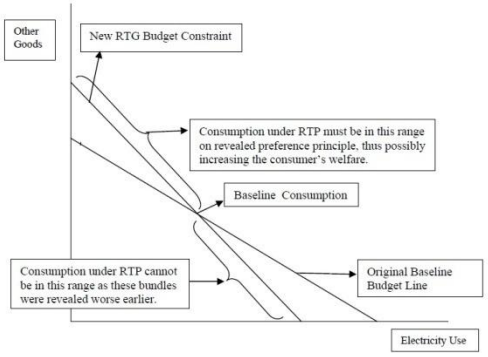
The above suggests a glaring gap between the power requirement, its current supply and its potential from renewable resources. We should also not pay a blind eye to the negative externality of greenhouse gas (GHG) emissions of conventional power generation which will end up doing more harm than good in the long run. So what can be done? How do we bridge the gap in a 'green' enough way?

There are two ways, and this is where economics meets technology. One way is to use latest scientific developments to enhance and improve the efficiency of power plants. This comes in the way of introducing super critical technology in India. India currently uses sub critical technology which is slower and has a greater carbon footprint than super and ultra critical technologies, which are operated at higher temperatures, thus speeding up the generation process and cutting back on the GHG emission. Successful supercritical technology backed power plants have been or are being introduced in Indonesia, Malaysia and Canada. This technology is easily available at almost the same cost as sub-critical plants. The government is already planning to install this technology in future plants. These plants will account for 60% of thermal capacity to be built in the 12th plan and 100% in the 13th Plan, thus contributing 50 GW by 2020.

Controlling the ever growing consumer demand is one of the many economic solutions I could think of. People respond to incentives – whether or not in the way you intend them to, but they do respond. The challenge is to set up a pricing system so that those users who are able to reduce their electricity use have an incentive to do so.

One way of doing this is through Real Time Pricing (RTP) in which large users are provided with special meters that allow the price of electricity to vary minute by minute, depending on signals sent from the electricity generating company. As the demand for electricity reaches capacity, the generating company increases the price so as to encourage users to reduce usage. The price schedule is determined as a function of total demand for electricity.

Georgia Power Company in the US runs the world's largest RTP programme in the world. When electricity is in short supply and real time price increases, the customers who are assigned a baseline quantity/normal usage quantity face a higher price for electricity use the moment they exceed their baseline quantity. But they also receive a rebate if they reduce their electricity use below their baseline amount. This incentivizes them to reduce their consumption of electricity. At the most, they will be as well off as before and possibly they may even improve their welfare by making use of the new trade-off. Such a demand management model is illustrated below:



The baseline consumption shown here is the endowment bundle through which the budget line pivots under RTP. With suddenly hiked prices, the consumer with a

fixed income can now consume lesser quantity of maximum electricity and shifts this demand to other goods. The overall result of the consumer staying on the upper left segment of the new budget line finally (principle of revealed preferences) is that he now consumes lesser electricity than baseline. Demand, at least on paper, is controlled.

The effectiveness of this demand management model in India, with a lot of different variables, is yet to be seen. However, a test run in a sample city can always be tried out, given the RTP's success in Georgia, USA.

The policies adopted should keep in mind the following:

1) They need to be backed by incentives for people to self-regulate themselves.

2) To improve efficiency, they must promote technological and institutional innovation, especially development and the introduction of green technology.

3) They should not lead to competition for limited land and water resources in the country. This is necessary to avoid an adverse impact on food security and livelihood of the poor.

Clearly, just doing this is not enough. This basic energy policy transition needs to be supported by many measures like using energy efficient appliances, adopting green business models and a sustainable lifestyle as well as a Real Time Pricing strategy to curtail electricity demand. The cost effectiveness of some of these measures (policy and non-policy) is doubtful. Some other measures may face institutional barriers limiting our ability to implement them. A broad consensus along with a supportive institutional set up is necessary, but may not always be forthcoming. Also, several measures may look attractive on paper, but they may not be adopted by people or firms. However, even small differences can add up to a brighter tomorrow.

References

1. Alstom, Manjung 4 (Malaysia) ultra-supercritical coal-fired power plant – www.alstom.com/.../Power/.../manjung-4-malaysia-ultra-supercritical-coal-power-plant.pdf.
Retrieved 24 Sep 2012
2. Balasubramanian, P.a, Karthickumar, P.b.(2012). Indian Energy Crisis - A sustainable
solution. 1st International Conference on Advances in Engineering, Science and Management.
ICAESM. Article number 6216297, 411-415.
3. Cato, Molly Scott. (2009). Green Economics: An Introduction to Theory, Policy and Practice.
Earthscan, London, Sterling VA.
4. Himachalam, D. (2006). Power Sector in India: Issues and Chalenges. The Associated Publishers, Ambala Cantt.
5. Indonesia's Largest and Most Efficient Coal-fired Power Plant ...
www.mhi.co.jp/en/news/story/1206051543.html - Cached, June 05, 2012 No.1543
6. Ministry of Environment and Forests (MoEF) Annual Reports, 2009-10 and 2010-11.
http://moef.nic.in/report.html, Retrieved 20th Sep 2012
7. Ministry of Environment and Forests (MoEF). New and renewable sources of energy.
http://moef.nic.in/divisions/ic/wssd/doc2/ch4.html. Retrieved 20th Sep 2012
8. Planning Commission, Government of India, Interim Report of the Expert Group on Low
Carbon Strategies for Inclusive Growth, May 2011. Retrieved 21st Sep 2012
9. Report to the Major Economies Forum on Energy and Climate, prepared by India and Japan in
consultation with MEF partners. (2009) Technology Action Plan: High Efficiency, Low
Emissions Coal.

10. Schmid, G. (2012). The development of renewable energy power in India: Which policies have been effective?. Energy Policy, June 2012, Volume 45, 317-326.

11. Sharma, Shanker. (2012). True Electricity Demand and the Critical Role of Renewable Energy Sources. Commentary Section, Economic and Political Weekly, 16 June 2012, Vol XLVII No 24, 24-27.

12. Sreenivas, Ashok and Dixit, Shantanu. (2012). Are we serious about our energy security?. Commentary Section, Economic and Political Weekly, 19 May 2012, Vol XLVII No 20, 10-13

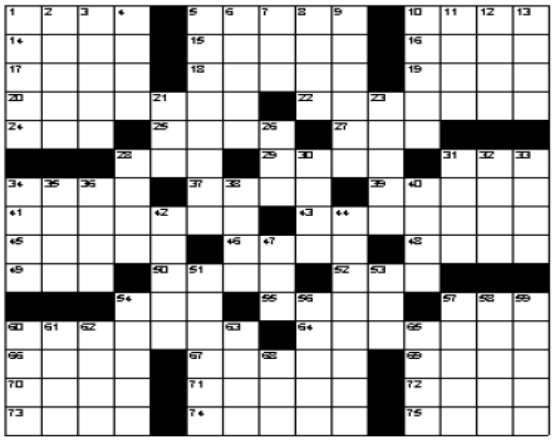
13. Sukhatame, S. P. (2011) "Meeting India's future needs of electricity through renewable energy sources", Current Science, Sep 2011, Vol 101, NO.5, 624-30.

14. Sukhatame, S. P. (2011). Addendum to Meeting India's future needs of electricity through renewable energy sources. Current Science, Vol 102, No 7, 10th April 2009, 959 - 960.

15. Varian, H (2010). Intermediate Microeconomics – A Modern Approach. Affliated East-West Press Private Limited, New Delhi.

16. World Bank. (2010). Unleashing the potential of Renewable Energy in India. http://siteresources.worldbank.org/INDIAEXTN/Resources/Reports-Publications/Unleashing_potential_of_Renewable_Energy_in_India.pdf

Crossword: Currencies across the Globe



© 2002, The New York Times

ACROSS

1. Currency unit which has replaced the 10-Across, 20-Across, 60-Across, 64-Across, 70-Across, 9-Down and 51-Down
5. Backbone
10. German currency unit before 2002
14. Mushy food
15. Currency units in Mexico and several South American countries
16. Jai ___ (handball relative)
17. "Don't look ___!" ("I didn't do it!"): 2 wds.
18. Storage space under a roof
19. General idea
20. Greek currency unit before 2002
22. Indonesian currency units
24. ___ Francisco
25. 2,055, to Caesar
27. Month between Nov. and Jan.
28. Come ___ screeching halt: 2 wds.
29. Prince William's school
31. "Atlas Shrugged" author ___ Rand
34. West Coast school that's home to the Bruins
37. Villain in Shakespeare's "Othello"
39. Once in ___ moon: 2 wds.
41. Israeli currency units
43. Venezuelan currency unit
45. Currency unit of several Middle Eastern countries
46. Adolescent
48. South African monetary unit
49. What "&" means
50. Alien spaceships
52. Automobile
54. Procedure performed by a paramedic
55. New Mexico resort and art colony
57. Boat that Noah built
60. Spanish currency units before 2002
64. Netherlands currency unit before 2002
66. Very dry, as a desert
67. More friendly
69. Bullets, BBs and spitballs
70. Italian currency unit before 2002
71. Former Russian emperors
72. Conceited
73. One who can look into the future
74. Have a gut feeling
75. Opening poker contribution

DOWN

1. "By Jove!"
2. Prefix with violet or sonic
3. Resident of Italy's capital
4. 11-nation oil org.
5. Messages that computer users usually delete without reading: 2 wds.
6. Flower part
7. Suffix with guitar, art or novel
8. Film ___ (movie creating a sense of pessimism and despair)
9. Portuguese currency unit before 2002
10. Specialty of David Copperfield and David Blaine
11. Et ___ (Latin for "and others")
12. Allergic skin reaction
13. Model builders' sets
21. Medical insurance plan, for short
23. ___ code (statutes dealing with crimes and their punishment)
26. ___ out (really relax, in slang)
28. Bangladesh currency unit
30. "What seems ___ the problem?": 2 wds.
31. Thomas Edison's middle name
32. Chinese monetary unit
33. Dweeb
34. Letters stamped on a meat package
35. Where a goatee grows
36. ___ a hand (help out)
38. Concerning: 2 wds.
40. Ethiopian monetary unit
42. Explode
44. Traveling in the right direction: 2 wds.
47. Suffix of superlatives
51. French currency units before 2002
53. "Just ___ feared": 2 wds.
54. Tree with fragrant wood
56. Middle-___ (fortysomethings)
57. Guy who writes commercials
58. Send in, as payment
59. Danish monetary unit
60. Buddies
61. One of the Great Lakes
62. Title of royalty
63. Small, medium or large
65. It flows down the sides of a volcano
68. Is able to

Best Compliments
from
Atcon India Pvt Ltd

Compliments
From
K.N. Anand Construction (P) Ltd

Best Wishes from
Devi Construction Co