Volume 1 Issue 2
March 2007

# Research Newsletter of IndSearch



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**Chairperson's Message**

It is most heartwarming to note the interest with which the previous issue of our Research Newsletter has been received by one and all. Formal and informal reader feedback has poured in lauding our effort and suggesting improvements.

Beginning with this issue, we are implementing some of the suggestions. For instance, we are devoting space for reporting New Areas of Research. IndSearch has taken up a study to assess the implication for and impact on small farmers due to Contract Farming, which has gained importance in recent times. The study is based on a sample of small farmers Pune District of Maharashtra.

Also, we have included Research Notes, a feature where one can publish comments or new ideas relevant to a research topic. In this issue, an interesting note appears on comparison of wages between United States and India. The authors point out the shortcomings in using exchange rate of currencies for such comparison and advocate Purchasing Power Parity based comparison. They also point out the impact of cultural transformation involved when labour moves across national boundaries.

Editorial improvements may be noted in the write–ups on projects completed, particularly Ph.D theses. We will hereafter present the summary of the Ph.D theses, more or less in the format in which they were submitted to the Universities, i.e. in sections such as Objectives, Justification, Hypotheses, Research Methodology, Data Analyses, Findings, Conclusions and Recommendations. We hope that this would facilitate students and others in taking further their ongoing research work. In this letter we have included two theses on Interpersonal Relations and its Impact on Organizational Effectiveness in Scientific R & D Organizations and Cost Effectiveness of Indirect Taxation in India respectively.

Best Wishes to all.

Dr. Ashok Joshi

# PROGRAMMER'S SALARY IN INDIA AND UNITED STATES – A COMPARISON

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## Introduction

Even now, after about a decade and half after globalisation, when national boundaries have become irrelevant, it is still customary to compare wage levels in two countries using the exchange rates of their respective currencies. Does the currency exchange rate provide a realistic base for wage comparison? After all, wages are earned and spent in purchasing goods and services to maintain certain standard of living and what a given quantum of wages can buy in a country depends on the general price level in that country. It is therefore more useful to compare inter- national wages using a measure which reflects the respective price levels in the countries, i.e. the currencies' purchasing power. In other words, wage comparisons should use Purchasing Power Parity (PPP) between currencies rather than their exchange rate, as opined by the authors of this Note,

## Background

In his paper titled "The new off-shoring of jobs and global development." presented as part of the 7th Nobel Peace Prize Social Policy Lectures*, organised by the University of West Indies, Professor Gary Gereffi of Duke University, North Carolina, USA. used the global value chain perspective to look at how offshore outsourcing has affected the quantity and quality of jobs in the global economy. One of his themes was to conceptualize knowledge-intensive jobs related to research and development, information technology and business process industries in the perspective of their role in global value chains.

## Comparison of a Programmer's salary in India and US

Gary Gereffi has pointed out the off-shore outsourcing in India's IT sector as a success story stating that in 2002, India's IT service providers were the dominant offshore vendors, delivering an estimated $10 billion in IT services (Karamouzis, 2003) and employing about 650,000 professionals in IT services. He has further estimated that this business is expected to triple by 2008. The most interesting part of his paper is the comparison of programmer's salary in India and in US. He says, "From a global value chain perspective, many of the software and other IT jobs in India involve routine work on mainframe computers using relatively standardized or outmoded technology. However, the lure of the Indian sub-continent makes eminent sense for US companies, who see this as a win-win situation in economic terms. In the United States, gross domestic product per capita in 2003 was just over $35,000 and the typical salary for a programmer was $70,000; in India, The GDP per capita was $480 and a typical programmer in India earned $8000 per year (Pink, 2004, p.13). Thus, Indian programmers make only about one ninth of their US counterparts, but in the domestic Indian setting they are earning more than 16 times the Indian minimum wage, while the average US programmer earns only twice the us minimum wage. Furthermore, India is already beginning to offer higher-level services, such as systems architecture, design, and technology strategy services (Chandwik, 2003)."

While making the comparisons, Gereffi has equated per the capita GDP with the minimum wage of the country. On the other hand, the authors of this Note feel that it would be more meaningful to apply the Purchasing Power Parity ratio (PPP) for comparing the salaries since it would give a more reality based perspective to the conceptualization of knowledge-intensive jobs related to information technology and would stimulate the interest of graduate and post-graduate students in international social policy as well as the IT professionals involved in this global value chain. While Gereffi was referring to the lure of the Indian sub-continent for US companies, there is equally the lure of overseas jobs in the mindset of Indian software professionals.

Purchasing Power Parity ratio measures the number of units of a country's currency required to buy the same amount of goods and services in the domestic market that a dollar would buy in the United States. The World Bank computes PPP for classification of countries by their income. Since nominal exchange rates do not always reflect the international differences in prices, The World Bank computes the Gross National Product (GNP) per capita of a country at purchasing power parity (PPP) rate expressed in dollars.

It is true that, at international rate, a programmer in India is paid one ninth of what his counterpart in

the US is paid. It may be because the dollar is 45 times stronger than the Indian Rupee and the US being an industrially developed country has to pay higher salaries than developing countries. However, using GDP per capita at nominal rate of exchange of currency can result in distortion while making wage comparisons between countries. After all wages are paid to meet the sustenance and other comfort requirements of employees. What is of crucial importance therefore is what and how much that wage can buy in the markets in the US and in India. While comparing wages, therefore, one has to make a difference between the 'wages in print' and the 'real wages'. Otherwise, the wages and the differentials could become fallacious. The 'real wages' are based on the purchasing power of the currency in a country.

## Comparison in terms of PPP

When one applies the Purchasing Power Parity ratio to the salaries of the programmer's in the US and India, some interesting observations emerge. (see Table)

## Observations

While in India a typical programmer's salary increases almost every year, it is not the case with a programmer's salary in US, which has remained at the same level during the last three years. In India, during the last three years, a typical Programmer's salary in a company of international repute has risen by about Rs.600, 000 p.a. which in US dollars is $13330 (@ $1 = Rs.45/). Converting this in PPP terms works to $ 80500 and therefore the US finds it cheaper to outsource its IT needs in India. Compared to the living standard in India, their salaries are more than adequate and also take care of the concept of decent wages. It is apparent that in the US too they have realized this. The 'brain drain' syndrome, which was alarmingly growing in the '90s, has begun to decline. There is a shortage of skilled manpower in this sector, which has resulted in high attrition rate of employees. This in turn, forces the employers to regularly revise their salary structures to attract and retain the skilled manpower. The employees in IT sector are enjoying the benefits of this global development. The amenities they are provided with in the residential colonies that have mushroomed during the last 5-7 years in the IT sector pockets are as good as those of any posh condominium in the other developed countries.

In spite of this, if Indian IT professionals opt for overseas jobs, it may be because of the lure of the mirage of money in print and/or some other reasons. No doubt, the West offers better civic amenities and better life styles compared to India. Also, there is the notion among some young Indians that the Western culture is better and more liberal. However, pitfalls are encountered when the Indian IT professional, though liberated from the social hierarchy of communities in India, migrates abroad only to be transplanted into a hierarchy based on colour and race. In the process, he also finds himself bereft of the strength given to him by his family and community. Especially for the IT professionals with children, the unintended cultural transplantation is not an easy task. The question therefore arises, "Was/is it worth?"

* The 7th Nobel Peace Prize Social Policy Lectures were hosted by the University of the West Indies and held in its Mona Campus, Jamaica during 5-7 December, 2005. The Lectures have been published jointly by the University and International Institute for Labour Studies.

## Table

| Item | US | India | Remarks |
|---|---|---|---|
| GDP per capita at nominal exchange rate of currency | $35,000 | $480 | US GDP per capita is 73 times more than India GDP |
| GDP per capita at PPP rate as per World Bank Book of facts and figures. | $37,800 | $2,900 | US PPP based GDP per capita is 13 times more than Indian PPP based GDP per capita |
| Programmer's salary at nominal exchange rate | $70,000 | $8,000 | A Programmer in US gets about nine times more than Indian Programmer |
| Real difference in programmer's salary at PPP rate | $ 37,800 * 2 = 75,600 | $8000 *2,900/480 = 48,333 | A programmer in US gets 1.5 times more than is Indian counterpart |

# Contract Farming – Its implication for and impact on small farmers – A Case Study of Pune District of Maharashtra.

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India still is predominantly an agricultural country. While the decades since independence have witnessed a phenomenal change in the science and practices of farming, management dimensions of farming have not undergone much change especially with reference to marketing and logistics, resulting in the tiller having not been benefited by the modern concepts and practices in these areas.

Thanks to globalisation and the entry of multinational companies in agriculture sector, Contract Farming, as an alternative to conventional production and marketing of agricultural products, is increasingly being advocated as it is said to benefit the agriculturists. Contract farming is a concept whereby the producer enters into a contract with the sponsor for the purchase of the farm produce as per terms and conditions specified in the contract. The difference from the conventional arrangement is that this method obviates the middlemen, provides for financial assistance to the producer (like in vendor development) and a host of other benefits arising when direct marketing is involved. Most importantly, it is claimed to protect the right of the farmer to a fair price for his products and prevent exploitation of the farmers from the machinations of "mandi dalals" (market agents)

Contract farming is now legally permitted.. The Government of Maharashtra has amended the Maharashtra Agriculture Produce Marketing (Development and Regulation) Act 1963 with a view to encouraging such arrangement. However, the question arises as to whether contract farming is beneficial to all farmers, big and small, or only to the big farmers who have strong bargaining power because of the size of their holdings. For instance, even in the industrially advanced district of Pune in Maharashtra, agriculture is still the occupation of a large number of small farmers, forming an important component of the District's economy. Their proximity to Pune is supposed to have made them more successful in marketing their produce. Yet, their position vis-à-vis contract farming needs to be studied in depth to be able to conclude that contract farming has given them all the benefits claimed.

The objective of the study is to find out the awareness level about contract farming among small farmers growing different types of crops in the Maval and Mulshi Talukas of Pune District. The hypotheses framed include whether, under contract farming, the farmers have been assured that their produce /derivatives would be sold, whether the trader/ processor were assured of definite supply of the agricultural produce required by them and the contracts entered are fair to both parties.

In addition, the study will also attempt to clarify the perceptions of the farmers regarding the advantages and limitations of contract farming.

A sample of one hundred small farmers formed the basis for the study. A questionnaire was developed and tested in a pilot study. The fieldwork is in progress with the help of students of the Institute's Master's Program in Marketing Management.

The study is likely to be completed soon.



# Cost Effectiveness of Indirect Tax Management

by **Dr. Waman Parkhi**
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Thesis submitted to University of Pune for the award of Ph.D

Indirect tax means a tax whose burden is passed on to others by the person paying the tax, such as customs duty, excise etc. levied by the Central government and Sales tax etc levied by the State governments in India. The proportion of indirect taxes to total tax revenue of the Central Government was approximately 65%, which continued to remain at the same level and dominate the tax revenues of the Centre. Further, the phenomenal growth of indirect taxes was the result of factors characteristic of

developing economies like widespread poverty, great inequalities of income thus forcing the government to rely on indirect taxes which can be levied on consumption by the masses also. However, indirect tax system presents a number of problems, such as, regressiveness, plethora of exemptions, multiplicity of rates, which all lead to corruption, harassment of the assesses and evasion of tax. Moreover, when levied at different stages of production, they lead to cascading, resulting in higher price for the consumer and general price – rise in the economy. Last but not the least, there is lack of consistency in the policies adopted by successive governments, especially in the States, with regard to indirect taxes. There is therefore a justification for a study to seek cost effective solutions to these problems

## Objectives

Briefly, the objectives of the study were –

1) To study the features and the problems of the present indirect taxation system in India
2) To review the consistency of the policy governing the Indirect tax system
3) To find the cost associated with the collection and compliance of the indirect tax revenue
4) To study if the indirect tax system is cost effective and to suggest comprehensive measures to make it more cost effective.

## Hypotheses

1) Indirect tax structure is not cost effective
2) Indirect tax will lose importance and direct tax will gain prominence as the economy grows
3) Structural changes alone are not enough. A proper delivery system should be in place in order to make the tax system cost effective
4) All costs associated with the tax system are not easily quantifiable in monetary terms
5) Indian tax structure lacks stability and continuity, has a long response time and suffers from frequent changes, which are often contradictory
6) VAT is the ultimate answer for all the ills of the indirect tax system
7) The spin off effect of compliance cost results in increased administrative costs or cost of collection
8) Cost of collection of indirect taxes is less than the cost of collection of direct taxes

## Data Base

The study has used both primary and secondary data. The secondary data comprised Reports of various Committees appointed by the Govt, Budget Speeches of Finance Ministers during the period 1947 –1999 and Annual Budgets. The primary data comprised the computation of cost of compliance for industrial units in Western India (Sample Survey) as well as responses to structured interviews with officers of the Deptt, scholars and representatives of industry.

## Methodology

Statistical tools like simple average, Karl Pearson's coefficient of correlation, Trend line fitting for time scale data etc have been used. DCF technique has also been used.

## Important Findings & Conclusions

1) The cost of collection per rupee of revenue of indirect tax at Rs. 0.013 is less than that of direct taxes at Rs. 0.016 which reveals the cost effectiveness of indirect tax
2) The present proportion of direct taxes to indirect taxes at 35:65 would continue for the next 10 years and may, at the most, reach a proportion of 50:50 if total comprehensive reforms of direct taxes are effected
3) A proper delivery system is essential since reforms in the structure have not reflected in lower costs of compliance or administration
4) Quantification of some costs, like cost due to delay in implementing recommendation for improved tax system, involves development of complex mathematical models
5) The lack of stability and continuity of the indirect tax system has its impact on cost effectiveness
6) VAT is the single most structural reform required backed up by a proper delivery system
7) Increased compliance cost of indirect taxes results in evasion and therefore increased administrative costs

# A Study of Interpersonal Relations in Selected Scientific and Research & Development Organisations in Pune

by **Dr. T. Sahay**
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Thesis submitted to the University of Pune for the award of Ph.D

Studies have revealed that interpersonal relations (IPR), which is an important factor in human behaviour, plays a significant role in organisation's output. In the case of R&D organizations in India, whose output is otherwise also below the desired level, the linkage between IPR and organizational effectiveness therefore assumes great importance and any study devoted to examining this is justified.

## Objectives

- To map the IPR needs of scientists in R&D organizations.
- To the impact of factors like the size of the organization, gender, age, position in the organization etc of the scientists on IR.
- To measure the staff's perception of the effectiveness of their organizations.
- To establish linkages between the existing IPR needs profile and organizational effectiveness in selected scientific R&D organizations

## Hypotheses

A number of hypotheses were developed such as –

1) IPR needs of research scientists differ from those of other professionals
2) IPR needs of scientists depend on the size of the organization, gender, age, position and level of hierarchy of the scientists in the organization
3) Perceived effectiveness of the organization depends on the satisfaction of IPR needs of the scientists and the culture of the organization
4) Effectiveness in R&D organizations is linked to the IPR profile of the scientists

## Methodology

Towards giving a proper representation of the total universe of all scientists in all R&D organizations, the sample was selected using the stratified random sampling technique. The survey research design method has been employed and both quantitative and qualitative methods are used backed up by field notes taken during the researcher's visits to the organizations selected.

## Sample

The Central government's outlay accounted for 69.8% of the total expenditure on R&D in 96-97,out of which nearly 81.9% was spent on just 12 R&D organizations in the country such as

Defence Research and Development Organization (DRDO),

Indian Council of Agriculture Research (ICAR),

Council of Scientific and Industrial Research (CSIR),

Indian Council of Medical Research (ICMR),

Ministry of Non-conventional Energy Sources,

Department of Atomic Energy,

Department of Space,

Department of Science & Technology,

Department of Environment,

Department of Biotechnology,

Department of Ocean Development and

Department of Electronics.

Among these organizations, DRDO, Deptt of Space and Deptt of Atomic Energy together received more than 99% of government funding and had similar structure and working conditions.

The nature of research performed in these organizations varied from basic to applied to and experimental development.

Further, out of a total of 2,777 R&D organizations, Maharshtra had the maximum number of 621, with Pune having a concentration of establishments. Taking all these factors into account, the sample covered by the study comprised

Armament Research & Dev. Establishment, (ARDE),
Institute of Armament Technology (IAT),
High Explosive Material Res Laboratory (HEMRL),
R & D Engineers,
National Chemical Lab (NCL),
National Centre for Astrophysics (NCRA),
Instt. Of Tropical Metrology (IITM),
National Centre of Cell Sciences (NCCS),
National Instt of Virology (NIV) and
Centre for Materials for Electronics Tech (C-MET),
Hindustan Antibiotics R&D Unit and
Inter University Centre for Astronomy & Astrophysics (IUCAA).

The total sample size worked out to 225 (N=225)

## Data Base

Besides published information, data was collected using the questionnaire method, interview with decision makers and personal observations. The questionnaire as developed by Uday Pareek (1997) containing 60 questions pertaining to IPR needs helped prepare IP Need Inventory (IPNI) indicating scores on 12 variables viz,

Inclusion Others (IO),
Inclusion Self (IS),
Affiliation Others (AO),
Affiliation Self (AS),
Extension Others (EO),
Extension Self (ES),
Recognition Others (RO),
Recognition Self (RS),
Control Others (CO),
Control Self (CS),
Influence Others (IO) and
Influence Self (IS).

The second questionnaire contained questions on effectiveness of R&D organizations to obtain the perceived effectiveness

## Data Analysis

The responses on IPNI were obtained on a scale of 1 to 6, which were converted into scores by replacing 1 with 0, 2 with 2, 3 with 6, 4 with 14, 5 with 18 and 6 with 20. while scores on many items were reversed. In the end, a final score out of 100 was obtained for each need category. The score for each need was compared using one–way ANOVA (Analysis of Variance) to prepare a summary of SS, DF, MS and F and wherever necessary Tukey HSD test was done to test the hypothesis. All the stastical analysis was performed using Vassar Stats. For measuring the perceived effectiveness, responses were obtained on scale of 0 to 5, the highest possible score being 70. Organisations were graded according to their respective scores out of 70.

## Important Findings and Conclusions

1) Control Self (CS) needs scientists holding Organizational Head positions were significantly lower than that of Group Supervisors and Group Members and on the lower side of the IPNI norms for CS. This indicated that irrespective of the positions they held, scientists were “counter-dependent”
2) The organisation’s size had a great impact on the mean score of CO needs. Scientists working in large organization had a higher mean score of 47, while those in medium and small establishments had a score of 39. As per the IPNI norm, a score of 45 and above on this need is indicative of autocratic IP behaviour while that between 27 and 45 indicated democratic behaviour
3) CO needs and perceived effectiveness of organizations are correlated
4) CS score of scientists was significantly lower than the corresponding need of other professionals
5) Small and medium scientific R&D organizations may avoid becoming large organizations
6) Due to their counter–dependent IP behaviour, scientists may be given sufficient autonomy to promote organizational effetiveness

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Editors: Dr. Ashok Joshi, Dr. L. Ramakrishnan and Ms. Nivedita Sarnaik

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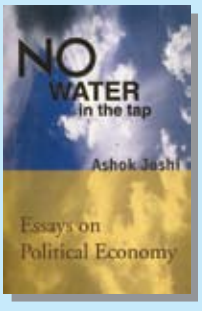


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