Labor Market outcome for Vocational Training in India- Does Safety net Theory holds true

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Abstract:

This work is an attempt to explore and examine why people join Vocational Education and Training (VET) by looking at the labour market outcome for VET trained people. Emerging literature on the performance of VET in European countries encompasses a plausible incentive structure for people to join VET. Essentially people join VET to ensure a better prospect of employment over unemployment. At the same time a decent wage which might not be as high as that corresponds to higher general education but is higher than lower level of general education. Thus choice of VET is trade-off between low risk low payoffs vis-à-vis high risk high payoffs. We observe that whereas contribution of formal VET in Indian context toward wage is insignificant – a large proportion of formal VET trained manpower remains unemployed. We have tried to explore reasons for this peculiar labour market outcome in India .

JEL code: J21, J23, J24, J48, J64

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1. Introduction:

Until lately, India was in a very poor condition in terms of investment and development of vocational and technical education (Debroy, 2009; Tilak, 2002; ILO, 2003, World Bank, 2008) vis-à-vis other developed and developing countries. Attention is being paid anew to vocational and technical education (VET) in India after 11th planning commission (Debroy, 2009). Focus now is to enhance enrolment from 3 million per year to 15 million per year. National Skill development council, under the chairmanship of Prime minister has made certain estimation regarding demand of skill in various sectors in next 3 decades. It sets the target to skill/upskill 150 million people by 2022. Various modus operandi has been set for this purpose. Devolvement of more fund, inclusion of private partners into this foray, provision for incentive to the students (e.g. scholarship), and demand based skilling so that students can be assured of a job at the end of training, credible certification, diversity of skill, introduction of new tailor-made courses etc.
However there is no lack of instances where projects for technical education has started with much fanfare but witnessed gloomy outcome. Some of these instances are mentioned below. Basic tenet that all these policies followed was existing demand of the market and not much on the incentive structure of the students. In this paper attempt is made to trace outcome of VET vis-à-vis the incentives of the students who join VET. While taking up these initiatives, it is important to know what incentives drive one to join VET. There are numerous cases of failure of VET training programs (Foster, 1965; King, 2002) precisely because the incentive structure/ outcome**.** So we will try to look at what incentives attract one to join VET. We will try to understand whether similar incentive structure exists in Indian labor market as well. This will help us to look back at the different initiatives taken recently from a more informed viewpoint.

2. Incentives in VET: A review of Global Literature- Safety net theory

When compared with corresponding general education, the effect of VET is more likely to be positive when the criterion is employment rather than unemployment (Ianneli & Raffe, 2007). People with VET qualification are more likely to be in the labour force than people with corresponding general education at upper secondary or lower secondary level. Shavit and Muller (1998) also argues that vocational education can act as a "safety net" when unemployment rate and rates of employment in unskilled work is lower for VET trained manpower than graduates from non-vocational track at a comparable level. Similar argument is made by Arum and Shavit (1995). They argue that VET reduces the probability of unemployment and of employment in lowest paying jobs. VET is studied using multiple frameworks as well as in multiple contexts. However some general conclusion about VET is reached and "safety net" theory is one among those general conclusions (Shavit and Muller, 1999; Ryan, 2001, 2003; Van de Werfhorst, 2002). The other part of the "safety net theory" argues that people in VET are less likely to get a wage equivalent to that after higher education. However the wage after VET is in general higher than the wage after lower level of general education (Ianneli & Raffe, 2007). Studies which don't claim to be representing the "safety net theory" also articulate similar phenomenon (OECD, 2008). Thus higher chance of getting employment and a relatively lower pay that one gets after higher education- is considered as incentive to join VET according to this theory. In a way it is a means of trade-off between choices for low risk low pay versus high risk high pay jobs.

2.1 Moderating Factor: Institutional Design

However, to what extent Vocational Training will act as safety net depends upon the institutional design (Shavit & Muller, 1998; Ianneli & Raffe, 2007; Kirchhoff, 1995). There are some researches which show VET may not act as "safety net" in certain context. For example Korpi et al.(2003) shows that though VET facilitates smooth transition from education to labor force, there is no evidence that unemployment rate is lower for VET trained manpower vis-à-vis

comparable general education graduates. Psacharopolous & Loxley (1985) in their seminal study under the patronage of World Bank observed that in Tanzania and Colombia (two countries under the study) graduates from both the general education and VET takes almost equal time to find an employment (cf. Tilak, 1988). In a word, their observation suggests that VET is not necessarily a safety net. They also observed in this study that employment after VET is dependent upon the availability of employment in general. They argued that if there is a declining employment opportunity then provision for VET is likely to be more expensive. The reason behind these contradictory findings about outcome of VET in labor market is the institutional design for education system, and education and labor market relation (Cristina & Raffe 2007; Muller & Shavit, 1998; Anderson & Werfhorst, 2010; Werfhorst, 2011). Shavit finds two variables associated with the educational system are – time and extent of stratification of VET from general education and occupational specificity of training. Employer's participation in training is considered as the indicator for labour market linkage with VET (Anderson, 2010). The term stratification refers to the extent and form of tracking in the education system. A system which is highly stratified, students get separated early in the track and their curriculum becomes different in great extent. Generally, when this stratification in early curriculum differences tend to be more prominent and inter-track mobility tends to be less likely (Shavit & Muller 1998; Nakamura, 2003). Extent of stratification, occupational specificity of curriculum, employer participation in training tends to produce different labour market outcome for VET trained manpower. Based on the hypothesis made by the seminal work of Shavit & Muller (1998) substantial amount of comparative researches have emerged (Anderson & Werfherst, 2010; Scherer, 2005; Iannelli & Raffe, 2007; Werfhorst, 2011). Many of these researches are in support of the hypothesis made by Shavit and Muller. For example, Scherer (2005) observes that indeed the strong linkage between VET and labour market reduces unemployment since employers have better information about the prospective employees. She shows using survivor function that in Italy getting first job is much delayed whereas in Germany apprentices bag their first job immediately after their training[1]. Controlling labour market regulation effect, this difference in these two countries is due to "Vocational Specificity" of the courses. Whereas in German, courses are highly vocational specific, in Italy they are not so. This extent of "Vocational Specificity" is also reflected in the wages. Werfhorst (2011) argued that if

[1] Her work also shows the effect of labor market regulation on unemployment. However that is outside the ambit of our present work.

there is strong "vocational specificity" in a country's education and training system then much of the employment outcome- measured in terms of wage- will be explained by the acquired training itself. In case the education and training system is not vocational specific then the wage earned will be explained less by acquired training and more by other factors[2].

Scanty literature in India, dedicated to Vocational Training alone- suggests that the return from formal Vocational training is positive (Chakravarti, 1972; Shortlidge, 1975; Fuller, 1976; Thakur, 1979; cf. Tilak, 1998). All these studies are micro and plant level studies. So, there is no scope for comparison between general education and vocational Training return- in terms of unemployment, wage etc. Rather these studies focuses on in firm training versus out of firm training.

However, as mentioned in the introduction, overall condition of VET in India is poor in terms of participation and institutions. Several studies (World Bank, 2008; ILO, 2003) brings out the poor institutional design for VET in India. Until lately there was hardly any participation of employers in the training systems. There is huge informational asymmetry between training system and the market for employment. Often people trained in VET are found to be equipped with skill sets which are not required by the industry (World Bank, 2008). Often, VET trained people do jobs which are not related to the skill sets they acquired through training. Lack of curriculum updation, indifference from industry to take care of training (Dagaur, 1997, ILO, 2003) are mentioned time and again as features of lack of industry participation in VET.

Not just poor features in industry participation, but also the institutional mechanism for creating VET trained manpower is remarkably poor in India. Until lately, there were few avenues for vocational training, like ITI, Polytechnic, and Community Polytechnic etc. There was always a

[2] Another stream of literature traces the return from Vocational Education versus general education for quite a long period of time and across many countries. This literature is mainly led by Psacharopolous followed by other academicians like Tilak in India. This literature indicates that investment in Vocational Education is per se uneconomic. It is to be noted that the main research question around which this literature revolves around is – whether curriculum diversification of education at the secondary level i.e. inclusion of vocational courses into academic stream by substitution of academic courses is more desirable. It comes out with significant observation with strong policy implication. There are questions raised on the methodology used to calculate rate of return form vocational and general education (Bennell, 1996). However our present study is not dealing with the issue of return from Vocational Education vis-à-vis general education rather it is a study on return from Vocational training outside academic institutions vis-à-vis return from general education.

problem of narrow specialization (Damodaran Committee report, cf. Sen, 1987). Neither there are many avenues for career movements once one is into VET (ILO, 2003; World Bank, 2008). There are many debates on how academic and vocational courses should be oriented (Kothari Commission, 1966; Kulandiswami Committee Report, 1985) but there was no clear conscience building on this. Even when the committees come to one decision, there was a huge gap between the decisions made and in practical implementation (Zachariah, 1973). The colonial education bias always played a role against the growth of VET in India (ibid.).

Thus, VET in India is clearly at its back foot. Given this background of VET, it would be quite interesting to study the labour market outcome of VET in India. While there is a possibility that the labour market outcome for VET may not be very good given the background of VET in India, it is a difficult phenomenon to explain in Indian context since overall labour market situation is completely different in developing countries over the developed countries. Oversupply of labour in the developing countries, lack of unemployment benefits, and lack of economic opportunity can create a different scenario for participation in VET as well as labour market outcome for VET trained manpower.

1. Research Question & Expected Results

In this context, we probe whether labour market outcome of formal VET is similar in Indian context to that in its developed counterparts or whether the poor institutions of VET in India play a negative role so far as labour market outcome is concerned. We tried to explain how this labour market outcome as well as overall job opportunity situation in the economy is related with overall participation rate in VET.

If the effects of institutional differences are not much then it is likely that labour market outcome for VET trained people in developed and developing countries will be similar. If the labour market outcome for VET trained people in India is worse than its developed country counterparts then it is likely that these institutional differences play an important role so far as determining the labour market outcome is concerned. But, there is another possibility that despite poor labour market outcome (if it is the case) people continue to participate without a decline, then it will plausibly indicate that there is very poor labour market situation in general in Indian context and

hence people will join VET even if they know that chances of good labour market outcome is unlikely. Finally, if there is a poor labour market outcome and at the same time there is a decline in the participation in VET then it will plausibly indicate that there are alternative livelihood opportunity for people which they can achieve even without a formal VET degree.

2. Methodology and data:

We take National Sample Survey Organization (NSSO) 66th round data for understanding this phenomenon. NSS is conducted by Ministry of Statistics of India annually and quinquinally. 66th round data is quiquinnal and schedule 10 of this data deals with Education and Employment. So far Indian context is concerned NSSO data is the most comprehensive data for studying employment unemployment (Himanshu, 2011) despite its various shortcomings[3]. In some cases we have made a comparison with 61st round. But since there is no major definitional change between 61st and 66th round- we are not making any compromise in our understanding.

If we look at the sample observation in table 1 and table 2 we will observe that there is a decline in sample observation in almost all categories of VET in 66th round from 61st round. But we should not take these sample observation to begin our analysis because of following reasons- first, in 66th round, the overall number of sample collected in 66th round is around two third of the sample of 61st round. Secondly, in 66th round VET data is collected for all age groups (15 to 60) but in 61st round only 15 to 29 age group data is collected.

3. Observation:

In this work we intend to look whether VET is acting as "safety net" in Indian context. For measurement purpose, we have taken three variables- unemployment rate, current weekly wage,

[3] To look at the various shortcoming of this data so far as employment unemployment is concerned, one should take a look at – Employment Trend in India: A re-examination by Himanshu (2011)

and proportion of salaried employment in the total work force. Our proposition is if unemployment rate is lower, current weekly wage and proportion of salaried employment is higher for VET trained manpower with comparable general education graduates then VET in India is working as a safety net[4]. We take these hypothesis and results from the literature- mostly on European countries.

4.1 Unemployment:

There are various measurement used by NSSO for measuring employment unemployment. There are 4 ways of measurement-namely, usual principal status, usual principal and subsidiary status, current weekly status, and current daily status. Among these measures, usual principle status is a strict measure of unemployment in the sense that it reflects whosoever is in the labor force but not working in the majority period of the year is unemployed. Usual principal and subsidiary status, on the contrary, is extremely liberal measure in the sense that it precludes everyone from counting unemployed whosoever has worked for at least 1 hour a week (Sen, 1976, NSSO 61st, NSSO 66th round)

Table 1

Unemployment (as a percentage of Labor Force) for Principal and Usual Principal and Subsidiary Status for 61st Round

61st Round

VET	Principal	UPSS
1	20.20	15.96
2	22.68	17.20

[4] Most of the literatures have used "occupational prestige" data as outcome variable. However, this data is not readily available for India. Instead we have used wage data and data on various types of employment e.g. wage employment, self employment etc. Desire for wage employment is very high in developing countries is well documented (Foster, Grubb, Naik and others). Types of occupation also help as a proxy variable of employment outcome.

3	2.32	1.41
4	7.10	4.55
5	8.48	6.61

Table 2

Unemployment (as a percentage of Labor Force) for Principal and Usual Principal and Subsidiary Status for 66th Round

66th round

VET	Principal	UPSS
1	18.14	14.20
2	20.12	14.12
3	1.70	0.80
4	3.82	2.21
5	2.07	1.19
6	6.57	3.34
7	8.23	4.92

Looking at the figures of unemployment as obtained from NSS data, it can be seen that so far as principal status (PS) is concerned, unemployment was never more than 5.4% (for rural males in 64th round) in different rounds and for different categories till 66th round (Himanshu, 2011). For UPSS category, highest unemployment is observed in 64th round rural male category with 4.6%

unemployment. But in our observation it is to be noted that the overall unemployment rate for all categories is higher than the unemployment rate for the entire labor force (15 to 59 year age group). Here, the unemployment rate is calculated for the age group of 15 to 29. Youth unemployment is always higher than unemployment for the entire labor force (Ryan, 2001; Grubb, 1995).

Strikingly, looking at the above two tables, unemployment among the formal VET trained manpower is tremendously high vis-à-vis others. This is true for both PS and UPSS. This is even more striking because the way unemployment is measured in India; it is very difficult to be registered as unemployed in Indian labor market. This high value indeed indicates that getting a job after VET training is indeed a highly risky affair. This high level of unemployment for this category is consistent is both 61st and 66th level. There is slight decline in unemployment in 66th round over 61st round for formal VET; it can be considered as a mere reflection of overall decline in unemployment in 66th round over 61st round. For both these levels, unemployment for formal VET category is quite starkly high.

Thus, the first argument about "safety net" i.e. low risk associated with VET – is clearly violated. Going completely opposite to this argument- a very high risk is associated with the choice of VET in India. Different studies suggest this unemployment problem among the VET trained people in India (World Bank, 2008; ILO, 2003). From the employers side there are continuous complains about "employability" of these trained manpower. Moot point remains, unemployment situation for VET trained manpower is quite unwelcoming. This might be due to lack of demand of VET trained manpower in industry or may be due to "employability" problem. Thus, at the end of the day, a high risk is involved, so far as employment is concerned, with the choice of VET at least in Indian context. This associated high risk might be a reason why people don't want to participate in formal VET.

4.2 Type of Work:

We have taken Principal Activity status while looking at different types of employment. While we have used the usual principal status, we have precluded all the codes above 81 as they do not count either as employed or unemployed. Codes above 81 don't reflect labor force. We only take code 11, 12, 21 (self employment), 31 (salaried employment), 41 (casual public work), 51 (casual Private work) as measure of employment. Code 61, 62, 71, 72 does not come under the purview of principal status (66th round report on employment unemployment, page 13-14).

Foster (1965) in his seminal study on "Vocational School Fallacy" shows that students don't want to get skill training for being self employed. For being self employed formal skill training is hardly a choice for the students nor is required in the market. If we look at the supply side of Indian Labour market (Dutta Chaudhuri, 1996) we can see how employment security is historically valued in Indian labor market. Among all other concerns of trade unions it is the employment security which seems to be the most important concern. At the same time, from the demand side, lion's share (93%) of the labor market is taken up by the informal sector. Informal sector doesn't have the mechanism to recognize certificates nor does it require certified trained people. In this context it can be assumed that the main purpose of formal VET is to provide some sort of salaried employment.

Table 3

61st round principal activity components

	Self	Salaried	Casual	Unemployment	Labor force
Formal Receiving	36.93	29.24	13.63	20.20	100.00
Formal Received	31.73	34.36	11.22	22.68	100.00

Hereditary	71.74	8.59	17.35	2.32	100.00
Other	46.81	21.50	24.60	7.10	100.00
No-Vocational	53.58	15.99	21.94	8.48	100.00
Total	53.18	16.70	21.38	8.74	100.00

Table 4

66th round principal activity components

	Self	Salaried	Casual	Unemployment	Labor force
Formal Receiving	37.23	34.37	10.26	18.14	100
Formal Received	28.30	40.97	10.61	20.12	100
Hereditary	74.23	9.09	14.99	1.70	100
Self-Learning	58.50	16.01	21.67	3.82	100
Learning on the Job	36.88	32.89	28.16	2.07	100
Other	50.00	24.09	19.34	6.57	100
No Vocational Training	47.92	19.37	24.47	8.23	100

It can be observed that received VET category has the highest proportion of salaried employment among all other categories. This is consistent in both the rounds. In fact, there is a growth of salaried employment for formal received category VET in 66th round over 61st round. This is a positive growth so far outcome of formal VET is concerned.

4.3 Wage:

Age group taken for both the rounds is 15 to 29. The term experience square is important to notice as by the age of 29 it is unlikely that the age earning profile will take the concave shape. In 66th round for the age group of 15 to 29 it shows there is a positive sign for the experience square coefficient. It is logical because at this age group income used to spike up. However as the value of coefficient is almost equal to 0, we can think of dropping the term altogether.

Same analysis is done for 66th round data by taking the age group from 15 to 60 – i.e. the entire available data. This is incorporated along with the results for 15 to 29 age group.

This incorporation improves the R square value while hardly any change has happened to the coefficients and their significance level. With sample observation increasing from 11507 (for 15 to 29 age group) to 33515 (for 15 to 60 age group) there is hardly any change in the regression model. It shows the accuracy of the main model (15 to 29 age group).

Selection of variable and Filters:

I have used the filter of employed / unemployed/ still school going categories. It is possible that one is in the 15 to 29 age group category but is still going to school. It is also likely that in this age category a person is unemployed. Further, wage data is provided in NSSO only for wage or salaried employed people and not for the self employed people. Hence we need to filter these categories out. However, after filtering same R square and other coefficient values are obtained. It seems that when wage was considered – all non wage categories were already excluded.

Another case is inclusion of states. Coefficient for the states is significant but the R square value is getting reduced once we include states.

Sector (rural urban) gives a good result. As we include sector, it improves R square and it's coefficient is significant.

I have taken experience = Age- 5- years in general education. For the age group of 15 to 29, the complimentarily problem is stark. However, it seems that there is no drastic impact due to this as regression goes well in different diagnostic tests. But, what we haven't considered is the time taken for VET and consequent adjustment in experience. The reason is, if we include VET along with general education into the definition of experience, then VET being dummy variable is being dropped from regression altogether[5].

Table 5:

Return from General and Formal Vocational Education

Round	General education	Experience	Experience Square	VET	Location	Constant	R^2	No of Obs.
61st (upto 15 years of age)	.06*** (9.45)	.083*** (7.29)	-.001*** (-2.47)	-.13 (-1.78)	.41*** (15.96)	4.08*** (50.01)	.12	3955
66th (upto 29 years of age)	.106*** (31.06)	.013*** (1.94)	.0005*** (0.69)	-.03 (-0.97)	.33*** (20.43)	4.84*** (96.8)	.14	11057

[5] **Regression Diagnosis:**

VET has –ve coefficient in both the rounds. But it makes sense since these coefficients are insignificant for both the rounds. It means that VET has hardly any impact on income.

Now, can there possibly be any multicollinearity problem as the VET coefficient is –ve and it shows large p value? Looking at correlation matrix it doesn't seem that there is a multicollinearity problem as none of the independent variable is significantly related with VET.

Also by dropping few observations (by tsset test) there is no discernible change in the level of significance or in the value of the coefficients.

For heteroscedasticity test we have run Breusch-Pagan test and White test respectively. Whereas both the tests are indicating that there is a possibility of heteroscedasticity, we further looked at the diagram for residual versus fitted value and the diagram for residual versus suspected variable i.e. VET plot. There is no trend for rvfplot (i.e. residual versus fitted value plot). For residual versus VET plot also it appears that there is no trend. But, here VET assumes only two values and hence it is difficult to estimate any possibility of trend by just looking at a two point plot. A robust regression gives a slightly better R square value.

Further, I had done a pooled regression taking both rounds of data and then conducted Chow test. The reason why it is done is to check whether a pooled regression brings out any significant change in the coefficient of VET. However, even then the coefficient turns out to be insignificant at the cost of higher standard error.

For, autocorrelation test DW test is giving a value of around .06. It means that there is a chance of autocorrelation being present in the regression. However, with the diagram plot of error term with one period lag shows no consistent pattern. Given the fact that this is a cross sectional data – there is less a chance that autocorrelation will be present. Further, a Cochrane-Orcutt test extremely distorts the coefficient values and their level of significance. So, we are discarding this iteration.

66th (upto 60 years of age)	.107*** (60.63)	.03*** (18.22)	-.0002*** (-6.63)	-.001 (-.23)	.37*** (36.18)	4.72*** (181.14)	.19	33515

***p < .01 **p< .05

Table 6

Return from General and Formal Vocational Education (after dropping experience square variable)

(After dropping experience square term)

Round	General education	Experience	VET	Location	Constant	R^2	No of Obs.
61st (upto 15 years of age)	.06*** (9.43)	.054*** (16.01)	-.131 (-1.78)	.41*** (15.91)	4.08*** (50.22)	.124	3944
66th (upto 29 years of age)	.104*** (31.00)	.02*** (9.61)	-.04 (-0.97)	.34*** (20.43)	4.9*** (103.4)	.14	11250
66th (upto 60 years of age)	.108*** (61.16)	.02*** (43.52)	-.007 (-0.3)	.37*** (36.29)	4.87*** (199.67)	.19	33708

***p < .01 **p< .05

(There is no change in the R square values even after dropping the experience square term).

Interesting result can be observed if we compare wage return for people with/ without vocational training in the two rounds of data. I have included independent variable as experience, years of general education, a dummy variable for the vocational training and a dummy variable for location. Standard Mincerian wage equation which is empirically justified- requires to include experience, experience square and years of general education as independent variable whereas logarithm of wage as dependent variable. I have not included experience square as our primary focus of study is 15 to 29 years people. In this age group, it is unlikely that the concavity effect of age on experience will take place (Duflo, 2007). In fact dropping this variable yields a better model (see regression diagnosis).

Since we are interested to see the effect of Vocational Training, we have included the dummy variable for vocational training. In the dummy of VET we have taken two values. For formal received VET we have taken DV= 1 and for no vocational training we have taken DV= 0. We

have also included dummy variable for location (for rural and urban). The reason being- analysis of these two rounds of data suggests (Ahmed, forthcoming) that there is important difference in terms of access of VET in rural and urban India. In fact, in both the regressions we will see that location is a significant variable. Regression result for 61st round suggests that experience and general education are significant at 1% level of significance. However, vocational training turns out to have insignificant effect on wage. At the same time, for 66th round both general education and experience is significant at 1% level of significance. But, like 61st round, it shows that effect of vocational education is insignificant on wage. Other variable, as already mentioned – i.e. location has significant impact on both the rounds on income. Constant term is positive and is also significant for both the rounds. This is logical because a person joining labour market, without any education or experience, should have some income. Thus constant term, general education, experience, location – all behaves quite in an expected manner in both the rounds. However, vocational training, which is the main focus of our study, behaves in a peculiar manner and much remains to be explained in this count.

If the results are correctly reflecting the reality then it means that vocational training has hardly any impact so far as wage income is concerned[6]. Does the ground reality, other empirical study, anecdotes – etc. are suggesting the same thing? Are they telling that VET has very little impact on income at least during the time period of these two surveys?

4. Explaining Indian Context:

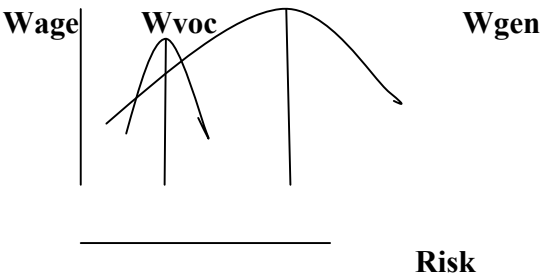
Thus, the fact remains that effect of VET on wage is insignificant in both the rounds. At the same time a tremendously high level of unemployment is associated with the VET. Thus, in this context we can hardly claim that safety net nature of VET is holding true in India. Only in terms of providing salaried employment- VET seems to be doing well in Indian context.

Thus, contrary to almost all established common knowledge that VET is supposed to ensure "employment rather than unemployment" and a decent wage- India seems to be performing in a negative way. For both the rounds of survey for usual principal status of employment shows that there is exceptionally high unemployment for the formal VET trained population along with insignificant wage. If purpose of VET is risk mitigation so far as getting employment is

[6] Different categories of VET, apart from formal received category, is also tested. Initially we were only dealing with the formal received category. However, literature both in India (Tilak, 1988) and abroad suggests that it is actually the on the job training which yields better return over the formal VET. Now, there is no data provided for OJT in 61st round. However, this data is provided in 66th round. But, we see here that even if we take this category, result on return from VET remains insignificant. Other category, like self-learning, is also yielding insignificant result. However, interestingly, hereditary training is yielding a significant negative coefficient.

concerned, then the situation in Indian VET deserves an explanation. Two aspects deserve explanation in this context. First, why such a precarious situation is so far as employment of VET trained manpower is concerned. Second, what is the consequence of such a precarious situation of employment whereas there is a moderately decent wage for the VET trained manpower? Below are the attempts to represent the null hypothesis according to the common perception of safety net nature of VET and alternative hypothesis of highly precarious labor market outcome of VET in Indian context

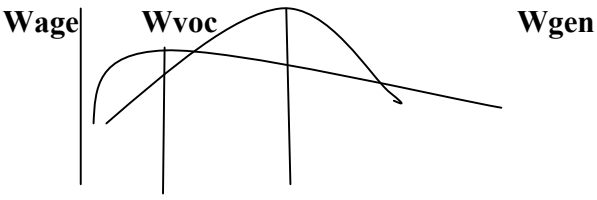
Diagram 1: H_0: VET is chosen for low risk low pay-off trade-off



Safety net nature of VET

Above figure explains existing common knowledge about labour market relation with general and vocational education. While there is higher risk involved with general education in terms of getting an employment, average wage after higher education used to be higher than the average wage after VET. In Indian context, above situation can be explained by Diagram 2.

Diagram 2: H_1: VET is chosen though VET is high-risk low pay-off strategy



Risk

Actual Scenario in India

5. Explaining Indian Context:

It deserves an explanation as to why the labour market situation for the VET trained people is getting worse in Indian context. We need to disaggregate the labour market outcome for manufacturing and service related issues and consider them separately[7]. Without expected growth in manufacturing sector, service sector in India spiked up giving rise to a GDP share from service sector around 60% while manufacturing sector continued to have a GDP share below 20% all along. However, until recently, most of the vocational training courses were mostly directed towards manufacturing sector and rest- for the information technology sector. Only recently, thanks to the initiatives taken by government and its newly formed body National Skill Development Corporation (NSDC) there is a growth of training in other service sectors as well. I will explain labour market outcome for these sectors one by one.

Manufacturing Employment & Wage:

Labor market situation for the ITI and diploma suggest that indeed their labour market situation has worsened. This is mostly attributed to the growth of contract workers, decline of union, decline of permanent employment- all of which has impacted ITI and diploma graduates negatively. My interview of many big organized manufacturing (e.g. Tata Motors, Bharat Electronics Limited, Samsung, Vedanta Group) firms suggest that the newly recruited ITI or diploma graduates who are mostly taken as contract worker don't differ much from the skilled casual workers so far as their wage is concerned. Research also suggests that there is hardly any wage growth for the worker level in the time period intervening these two periods (Kannan, 2008; Nagraj, 2004). Manufacturing sector in general has less employment elasticity than the service sector (Kaldor, cf. Papola, 2005). Whereas Indian manufacturing sector continued to

[7] This is essential because of the atypical structural change that Indian economy is going through. For more detail look Papola (2005), Bhaduri (2006), Mkhize (2013).

stagnate, this sector has witnessed high mechanization in the post liberalization period (Chaudhuri, 2002; Nagraj, Kannan, 2008, Unni, 2004). This has led to less number of shop floor employment, whereas employment for the engineers continued to grow (Nagraj, 2004). At the same time, the growth of contractual labor force might also have negative impact on labor market outcome of the manpower out of VET. Unlike before, big firms are persistently introducing capital intensity across all manufacturing industries. ID act, 5B clause is partly responsible for it. This act stipulates that the firms with a manpower size of 100 or above can't fire a worker without the permission of government whereas they can do so for managers. It renders, in recent period, that firms recruit less of VET trained manpower.

However, situation for unorganized manufacturing can be somewhat different and needs further exploration.

Service Sector & Employment:

In post liberalization India- service sector growth story is largely led by its information technology industry. Quite naturally, there is a growth of IT training both in formal engineering colleges as well as in the domain of VET. There is a huge growth of private engineering colleges in this period. This growth is primarily driven by the demand in IT industry. This growth story can be easily traced by looking at the newly growing engineering colleges and the courses they offer[8]. Consequence of this growth can be observed in day to day newspaper reports[9]. With decline in IT industry and tremendous growth in the supply side- large number students remains non-placed and large number of seats in the engineering colleges remains vacant. Some guess can be made about the labour market outcome for the VET trained manpower in IT industry. Looking at two rounds of NSSO data, it can be confirmed that it is the IT related VET trained people faces the worst labour market consequences. In both the rounds over 50% of the IT

[8] (http://wbut.ac.in/datas/users/0-college-list.pdf, http://wbut.ac.in/datas/users/0-college%20list-2012-13-23-07-12.pdf) This link informs about the growth of engineering colleges in West Bengal. (http://wbut.ac.in/datas/users/0-placement_11.pdf) This link suggests the name of the companies who are main recruiters. It can be observed- invariably, all of them are software firms.

[9] A. http://www.telegraphindia.com/1120909/jsp/7days/story_15955325.jsp#.Uf1F9NKmiME,
B. http://articles.timesofindia.indiatimes.com/2012-09-16/hyderabad/33879470_1_colleges-face-closure-admissions-lakh-students
C. http://articles.timesofindia.indiatimes.com/2013-08-02/coimbatore/41005482_1_vacant-seats-aicte-colleges

related VET trained manpower reports that they haven't benefitted from the training they have got. This is the highest number of non-beneficiary among all types of VET.

The other category which deserves separate explanation is other service sectors which are witnessing considerable growth. These are namely construction, healthcare, hotel hospitality and tourism, transport etc. All these sectors however don't require vocationally trained manpower. Take for example- construction. This sector requires only low skilled manual workers which hardly require any formal training. The other sectors require formally trained manpower. NSDC was launched in 2007 and many training ventures are launched since then in the areas of travel, tourism, hospitality, healthcare etc. sectors. 66th round NSSO was published in 2009 which means that survey was conducted at least a year before that. It is likely that the impact of new initiatives is not captured in NSSO report. However, there is no reason to be very much optimistic in this ground. There are many documents which suggest that students are not coming to get training, a lot of them are not getting employment and a lot- even after getting training is leaving the job because of poor pay and other alternative livelihood opportunities. For example, minutes of review meeting for multistate placement linked skill development project held on 6th and 7th May, 2013 stipulates that 43% of those who got training were not benefitted, apart from the fact that a large number of seats remained vacant in the training centers. I have interviewed many training providers and almost all of them admitted that getting students is a big hurdle. This problem is articulated now in multiple meetings and forums. Central challenge remains how to make a sustainable training model which is meant for poor people who are not ready to pay for it and neither have they had awareness of its benefit. Even the potential benefit is in question because of low pay in these emerging service industries. Both rounds of NSSO data suggest that a large number of people from many service sector oriented training programs report that they haven't benefitted from training. For example, in 66th round data suggests that more than 50% of the people trained in fashion, beautician, secretary courses claim that they haven't benefitted from the vocational training.

Service Sector & Wage:

There is a growth of VET related to service sector. However, these training programs are often short term course on mannerism, or a short duration course on basic communication. In terms of training rigor or skill addition – these courses may lag behind those training programs dedicated

to manufacturing sector. Rather what this change in premium (i.e. manufacturing to service) indicates is an emphasis on higher education. For example, a person in retail, banking and finance, or in certain IT related courses are tend to above higher secondary or degree students. Our observation suggests that these courses have duration from 3 days to a maximum of three months. Hence more than the content of training, their level of general education should matter more. Thus, the other factor can be the growth in the premium paid for general higher education over VET. This is likely because changing skill sets across the countries are requiring more of higher general education than very specific niche type technical education (Payne, 1999). This is even true for Germany (Thelen, 2004; Culpepper, 1999) which is famous for its very sophisticated technical training. It is observed that on average, educational requirement is higher in services sector than the rest of the economy in Indian context (Bhattacharjee et al., 2013). On average, year of schooling is 68% higher in services sector than for the economy as a whole. New occupations like financial intermediaries, real estate, administration and social service –etc require higher level of general education.

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At the same time, there are many services for which training centres actually act as organized labour contractor than just a trainer- Babajob.com, Team Lease, Saksham, NSHM- to name a few. Whereas they take care of information asymmetry problem and are in a position to provide employment- to what extent they provide a better wage than the labourers alternative livelihood opportunity – is a matter of question. One national head among the above mentioned training providers told that they are facing real difficulty in recruiting manpower for providing training. The reason – he stated was not lack of employment in the market but the wage these employments provide. People don't see much benefit of training as the wage after the training is not attractive so far as their alternative livelihood options are considered.

6. The Question of disequilibrium:

Labor market outcome for Indian VET can be attributed as high risk- low pay case. It shows that risk involved in choosing VET is extremely high as long as unemployment is taken as single measure of risk. However, this higher risk in VET is not compensated by the payoff- i.e. the wage. Thus, a situation of low payoff with a much higher risk exist so far as Indian VET is concerned. How, can this set an equilibrium? Logically, students should leave VET and all should join higher education. Given this nature of disequilibrium of labour market outcome of VET and General Education which is existing in India, it is logical to expect a natural demise of formal VET in India since students themselves will no longer have any reason to join formal

VET. It is also logical to argue that it doesn't matter how much effort government puts into creating infrastructure of VET institutions, as long as the labour market outcome is not improving choice of VET can't be a rational one in Indian context.

It would be interesting to note that there actually is a decline in formal VET participation so far as NSSO data is concerned. I have explained somewhere else that indeed there is a decline in VET trained manpower in absolute term and also in terms of the participation in the labor force. Thus, a poor labor market outcome and a decline in participation in VET seem to be going hand in hand. In this situation, it is probably important to focus on the labor market outcome of the VET trained people rather than just opening up numerous training centers. A poor labor market outcome will only assure empty classrooms in the training centers.

7. Limitations of the study:

Certain points are to be noted here regarding the study. First, the labour market outcome is obtained only for institutional training which excludes firm based trainings. Evidences suggest that in Indian context, rate of return for people involved in in-firm training is in general better than the rate of return for people in institutional training (Thakur, 1979). Fuller (1976) also observed a better labour market outcome for in firm trained people over and above people pre-employment trained people. In our analysis – in firm training category is completely excluded. Secondly, NSSO data is only sample data. We must consider the limitation of sample data in this context.

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