Buoyant Agglomeration of the VAT Refund: An Application of EFA and CFA

** Sunil Kumar*
*** Tejwant Singh Bagga*

Abstract

Agglomeration of the VAT refund is a major flaw in the VAT system which certainly pushes the future of the industry into the dark and also unnecessarily harasses the industrial units because a lot of funds are blocked in the form of refund with the government, which otherwise could be invested in business. The manufacturer needs to pay input VAT when the raw materials are bought, and it is realized till the goods are disposed-off. Under the preview of the VAT system, the dealers either setoff the input VAT against the output VAT or lodge a claim with the government for the excess input VAT. The present research work tries to explore and confirm the factors responsible for the delayed VAT refund. Five factors are extracted which were accountable for the agglomeration of the VAT refund. Conceptual factors were found to be the main factor responsible for the delayed VAT refund. The refund mechanism under the VAT regime is not very effective not only in our country, but also in the neighboring countries where the VAT system has been adopted. The second and third major factors responsible for the delayed VAT refund are 'Fraud and Tax Evasion' and 'Interstate VAT Divergence' respectively. However, the foremost objective of the VAT implementation by almost all the countries in the world is to cope with the unwanted leakage of taxes in the form of fraud and tax evasion. VAT is used as a tool to bring harmony in the taxation system of the countries. However, it could not bring uniformity in India; rather, it has caused divergence in the volume of the VAT refund in the states.

Keywords: **input VAT, output VAT, accumulated VAT, refund**

JEL Classification : H71,H72,M41,M48

Paper Submission Date : March 20, 2013 ; Paper sent back for Revision : July 2, 2013 ; Paper Acceptance Date : November 21, 2013

Lent, Casanegra, and Guerard (1973) identified that agglomeration of VAT refund is the major flaw in the VAT system, which certainly pushes the future of the industry into the dark. It unnecessarily harasses the industrial units because a lot of funds are blocked in the form of refund with the government (FICCI, 2006), which otherwise could be invested in business (Krugman, 1989). Evidence from past literature suggests that the VAT is conceptually wrong as the problem of accumulated VAT refund cannot be avoided because the system of paying and collecting VAT is done in a wrong way (Lent et al., 1973).

The manufacturer needs to pay input VAT when the raw materials are bought and it is realized till the goods are disposed of (Feldatein & Krugman, 1989). The dealers either set off the input VAT against the output VAT or lodge a claim with the government for the excess input VAT (Ministry of Finance, Government of India, White Paper, 2005). The government releases a refund only after cross checking of invoicing of all the dealers in a chain so as to cope with fraud and tax evasion causing unnecessary delays in disbursing of bulk of funds with the government (Prasad, 2007). Another major reason in case of export oriented units (EOUs, henceforth) is that it is levied on imports, but is rebated on exports. Hence, a major portion of input tax remains in the credit of the exporters (Desai & Hines Jr., 2002; Sharma, 2005) . The major portion of the working capital of the exporters is blocked in the form of input tax on purchase, because of nonpayment of VAT refund, and hence, it adversely results in definite declined exports (Bird & Gendron, 1998). This is the reason as to why delayed VAT refunds have adversely affected exports to China, and it has made exports more competitive as the cost of the exporting units has accelerated, and they have increased the prices accordingly to compensate the late VAT refunds (Harrison & Krelove, 2005).

**Assistant Professor ,* Department of Commerce and Business Management , St. Soldier College , Jalandhar, Punjab.
E-mail : Prof_ska@yahoo.com
** *Associate Professor,* Department of Commerce and Business Management, Guru Nanak Dev University College, Jalandhar, Punjab. Email : baggats@gmail.com

Objectives of the Study

The present study focuses on various factors which are responsible for the buoyancy of VAT refunds in Punjab. However, the specific objectives of the study are enlisted below:

(1) To explore the factors responsible for accumulated VAT refund and its effect.
(2) To confirm the factors responsible for accumulated VAT refund .

Literature Review

One prima facie condition of VAT implementation by almost all countries in the world is to cope with unwanted leakage of taxes in the form of fraud and tax evasion - the issue of fake invoices to claim VAT refund (Keen & Smith, 2007), corrupt official practices, and carousel fraud. That is why, the refund is released after thorough checking so as to avoid fraud and tax evasion (Keen, 2007) refund. Goods are sold to neighboring states, and only 2% cent CST is levied, while input tax is either 14.30%/ 6.05%, which causes unnecessary accumulation of bulk of funds with the government. That is why most of the dealers deny selling in the neighboring states as huge funds are required to be invested in the shape of accumulated refunds with the department. Goods are sold to the neighboring states against Form C to the registered VAT dealers, and these forms need to be submitted along with VAT returns to adjust the input tax. However, there is a tremendous shortage of these forms, and refund cannot be adjusted; rather, it gets accumulated over a period of time. Likewise, no refund is available on the goods transferred to the branches, causing accumulated refunds. Hence, it becomes impossible to cope with the delayed refunds of VAT in India to fulfill the working capital requirements. Also, in a country like India, diverse taxes are levied on various products, and many products are a blend of many inputs that are either levied at the rate of 6.05% or 14.30%. Hence, when a product is having a high input tax (say 14.30%) and a low output tax (6.05%), a worse situation can arise (FICCI, 2006).

The registered value added tax (VAT) dealer is under obligation to deposit the excess of output tax (tax collected on sales) over the input tax (tax paid on the purchases) to the government within the stipulated period provided under the VAT Act, or otherwise, he can claim the excess of input tax over output tax from the government on the prescribed performa, subject to the conditions laid down under the VAT Act (Bhushan, 2006). At the time of VAT implementation, the government promised to refund the excess input tax within 60-90 days from the date it is claimed; otherwise, the claimant would be compensated in the form of interest. The government (Prasad, 2007) is always short of funds, and it insists the dealers to adjust the input tax against the output tax. Most of the dealers do not claim a refund due to the premature evaluation of government funds, which are hardly available to the Commercial Tax Department, discouraging them from further claim of refund from the government, and insisting on the industrialists to adjust the amount of refund against the output tax (Roy, 2007). The problem arises in case of the EOUs, which have no output tax and also in case of dealers selling inter states, as such sales are levied only at the rate of 2 % (ASSOCHAM , 2006).

The VAT refund is one of the challenges the VAT administrations face in the developing countries (Shoup, 1988). To overcome this hurdle, some counties are using strategies such as denial of the refund claims (except to the exporters), carrying forward of the refund claims, demanding a third party certification of the claim, demanding guarantee, requiring taxpayers to have a separate VAT bank account, zero-rating of the supplies to the exporters, and the remission of the input VAT on certain goods (mainly capital goods) (IMF Survey, 2006 ; Lent et al., 1973). The VAT has been abused by many nations on account of huge paper work, and the businessmen have to spend more time working on the accounts, which could have been channelized for other business activities. Many a times, the businessmen do not claim the VAT refund from the government; rather, the amount of input tax is added in the cost of the product, and it is ultimately claimed from the consumer .Shortage of funds with the government is one of the reasons for the delayed VAT refund (Chatterjee & Biswas, 2007), which the government arranges from the accumulated VAT refund as a temporary source of funds to meet the deficit budget (Grandcolas, 2005). Poor administration of the VAT system in the nation is another major factor which is responsible for the delayed VAT refund (Shukla, 2001).

Methodology

The empirical phase of the article involves identifying the underlying dimensions of the factors accountable for the

delayed VAT refund in India. Next, the study explores the various factors accountable for the accumulated refund with the government. Finally, the study confirms the model obtained with the help of CFA. The primary data for the present study comes from a survey of 375 industrial units located in three districts of Punjab - Jalandhar, Ludhiana, and Amritsar, with the help of a well-drafted and pre-tested structured interview schedule. In addition to the theoretical literature that has been discussed in the previous section, the empirical analysis constituted data collection to elicit concrete conclusion pertaining to the VAT regime and its effect on the industry. The universe of the study comprises of the industrial units located in the three districts of Punjab.

In order to analyze the factors responsible for the accumulated VAT refund with the government, a set of 21 statements were designed on the basis of review of literature. These statements (Table 1) focused on various factors causing accumulation of VAT refund. The respondents were asked to indicate their level of agreement with each statement on a five-point Likert scale ranging from *'Strongly Agree'* to *'Strongly Disagree'*. For the purpose of analysis, WAS (weighted average score) was calculated for each of the statements by assigning weights of 5 to *'Strongly Agree'* and 1 to *'Strongly Disagree'*.

Table 1. Scale for the Accumulated VAT Refund

LABEL	STATEMENTS
V1	Long pending accumulated refund with the government discourages industry to claim further refund.
V2	The Input tax rate (13.75%) is more than the Output (5.5%) tax rate.
V3	VAT involves too many formalities and paperwork.
V4	Carousel Fraud.
V5	Many companies issue fake invoices to claim VAT refund.
V6	Due to the everlasting "server down" problem of the Sales Tax Department, the e-return cannot be filed well in time.
V7	I do not claim VAT refund because the govt. will not refund the money.
V8	Corrupt official practices.
V9	Zero-rated Export.
V10	The transaction cost for claiming VAT refund is too much.
V11	When goods are sold to the neighboring states, only 2% CST is levied, while Input tax is either 13.75% or 5.5%.
V12	It is difficult to fulfill the legal formalities causing undue harassment to the traders.
V13	Release of only 80% refunds and retaining 20% funds in Punjab.
V14	Refund on consumables is available up to 4% in Punjab.
V15	Refund on capital assets can be claimed up to 4% in Punjab.
V16	It is easy to add the input tax in the cost of the product instead of claiming the refund.
V17	There is a long chain of dealers and refund is available only after thorough checking.
V18	Neighboring dealers insist on delivery without invoicing.
V19	Government is always short of funds and it insists on the dealers to adjust the Input tax against the Output tax.
V20	No refund is available on interstate stock transfer to branches.
V21	Shortage of Forms C,H, and F.

Source : Compiled from the Literature Review

Analysis and Results

Data analysis proceeds in three steps. First, exploratory factor analysis was used to estimate the factors accountable for the delayed VAT refund. Next, the reliability and validity of the scale was examined. Finally, the confirmatory factor analysis (CFA) was used to confirm the explored factors responsible for the delayed VAT refund.

↳ **Exploratory Factor Analysis :** Results of the factor analysis are shown in the Table 2. Five factors were extracted accounting for 72.8% of the total variance (see Table 2). 21 items causing accumulated VAT refund loaded properly on the obtained factors. The factors (dimensions of accumulated VAT refund) obtained were labeled as Conceptual

Defects, Fraud and Tax Evasion, Interstate Disharmony, Legal Aspects, and VAT Adoption. We retained factor loadings of 0.5 or above for further analysis. Reliability of the factors was calculated using Cronbach's alpha. A Cronbach's alpha value of greater than or equal to 0.7 is considered acceptable for the factor to be reliable .

"Conceptual Defects" emerged to be the most significant factor accounting for 24.933% of the total variance. Five out of 21 statements are loaded on these factors, which are highly correlated. Out of five, two statements are highly loaded, which are responsible for the accumulated VAT refund, which includes the release of refund after cross-checking of invoicing of all the dealers in a chain so as to cope with fraud and tax evasion causing unnecessary delays and accumulation of funds with the government. The second vital cause for the accumulated refund, which is highly loaded at .895 is responsible for the belated VAT refund, that is, variation in input and output payable. Conceptually, such a situation arises when the principle of uniformity is not followed during the VAT regime, that is, diverse VAT rates are adopted for different products. A product is a blend of many inputs which are either levied at the rate of 5.5 % or 13.75%, and most of the products are covered under the slab of 5.5%. Hence, when a product is having a high input tax (say 13.75%) and a low output tax (5.5%), a worse situation can arise. The other three statements which are closely loaded are V9, V3, and V16 with loading values .758, .751, and .736 respectively, and are significant reasons for the delayed VAT refund. In almost all countries, the EOUs are kept outside the VAT regime, that is, exports are zero-rated, and thus, whatever is paid as input tax ought to be claimed from the government. In addition, the VAT has been abused by many nations also on account of huge paper work, and the process of filing the VAT related documents is quite cumbersome and time consuming.

One prima facie condition of VAT implementation by almost all the countries in the world is to cope with the

Table 2. VAT Refund Dimension

Factors	Measurement Items	Factor Loadings	Reliability Cronbach's Alpha
1. Conceptual Defects (AVE=0.71)	• There is a long chain of dealers and refund is available only after thorough checking.	.907	.912
	• The Input tax rate (13.75%) is more than the Output (5.5%) tax rate.	.895	
	• Zero-rated Export.	.758	
	• VAT involves too many formalities and paperwork.	.751	
	• It is easy to add the Input tax in the cost of the product instead of claiming the refund.	.736	
2. Fraud & Evasion (AVE=0.66)	• Many companies issue fake invoices to claim the VAT refund.	.915	.862
	• Corrupt official practices.	.898	
	• Carousel Fraud.	.866	
	• It is difficult to fulfill the legal formalities causing undue harassment to the traders.	.547	
3.Interstate VAT Divergence (AVE=0.61)	• When goods are sold to the neighboring states, 2% CST is levied, while Input tax is either 13.75% cent or 5%.	.924	.881
	• Shortage of Form C,H, and F.	.893	
	• No refund is available on interstate stock transfer to branches.	.870	
	• Neighboring dealers insist on delivery without invoicing.	.570	
4.Legal Aspects (AVE=0.65)	• Long pending accumulated refund with the government discourages industry to claim further refunds.	.859	.812
	• Government is always short of funds & it insists the dealers to adjust the Input tax against the Output tax.	.757	
	• Refund on consumables is available up to 4% in Punjab.	.673	
	• Refund on capital assets can be claimed upto 4% in Punjab.	.566	
5.VAT Adoption (AVE=0.68)	• Due to the everlasting "server down" problem of the Sales Tax Department, the e-return cannot be filed well in time.	.788	.799
	• I do not claim the VAT refund because the govt. will not refund the money.	.706	
	• The transaction cost for claiming the VAT refund is too much.	.645	
	• Release of 80 %refund and retaining 20% in Punjab.	.636	

Source : Adapted from S. Kumar, & T.S. Bagga (2012). *An analytical study of VAT : A case study of Punjab* (Ph.D. Thesis). Amritsar, Guru Nanak Dev Univeristy.

unwanted leakage of taxes in the form of fraud and tax evasion. Four statements out of 21 are loaded on the factor - "Fraud & Tax Evasion". Three out of four are highly loaded and correlated with each other - the issue of fake invoices to claim VAT refund, corrupt official practices, and carousel fraud. That is why the refund is released after thorough checking so as to avoid fraud and tax evasion. "Interstate VAT Divergence" is the third most important factor, with percentage of variance equal to 11.011%. Four out of 21 statements have been loaded on this factor. Three out of four statements are highly and positively correlated with this factor. One of the statements with highest loading value .924 states that goods are sold to the neighboring states and only 2% CST is levied, while input tax is either 13.75% or 5%, which causes unnecessary accumulation of bulk of funds with the government. That is why most of the dealers deny selling their goods in the neighboring states as huge funds are required to be invested in the shape of accumulated refund with the department. The remaining two statements which are highly loaded at a high value of .893 and .870 (V21 and V20 respectively) also support the disharmony factors, that is, shortage of Forms C, H, and F, and no refund is available on interstate stock transfer. Goods are sold to the neighboring states against Form C to the registered VAT dealers, and these forms need to be submitted along with VAT return to adjust the input tax. However, there is a tremendous shortage of these forms and refund cannot be adjusted. Rather, it gets accumulated with the government over a period of time. Likewise, no refund is available on the goods transferred to the branches causing accumulated refund. Hence, it becomes impossible to cope with the delayed refund in India to fulfill the working capital requirement.

Four statements V1, V19, V14, and V15 are loaded on the fourth factor "Legal Aspects" with positive correlation of .859, .757, .673, and .566 respectively. Out of the four, two statements are highly loaded and are positively correlated - firstly, long pending accumulated refund with the government discourages the industry to claim further refund and secondly, the government is always short of funds and it insists on the dealers to adjust the input tax against the output tax. Most of the dealers do not claim the refund due to the premature evaluation of government funds, which are hardly available to the department, discouraging further claims of refund from the government, and insisting the industrialist to adjust the amount of refund against the output tax. The problem arises in case of EOUs, which have no output tax and also in case of dealers selling inter states, as such sales are levied tax only at the rate of 2%.

"VAT Adoption" is the last but very significant factor accountable for the accumulated refund with percentage of variance being 7.181%. Four out of 21 statements are loaded on this factor - the statements V6, V7, V10, and V13 with positive correlation of .788, .706, .645, and .636 respectively. Two statements are highly loaded and they rightly define the factor, that is, due to slowdown of the server, the VAT return cannot be filed well in time causing undue harassment to the dealers. Another important reason that the dealers do not claim the refund is because they think that the government will not refund the money, and they will be asked to fulfill a number of formalities. Just to avoid the cumbersome nature of filing for a refund, the traders do not apply for the same, which causes a huge accumulation of refund with the government.

↳ **Confirmatory Factor Analysis :** This section confirms the various factors extracted with the help of EFA, which is responsible for the accumulated VAT refund. It deals with the application of confirmatory factor analysis to evaluate the major factors responsible for the accumulated VAT refund.

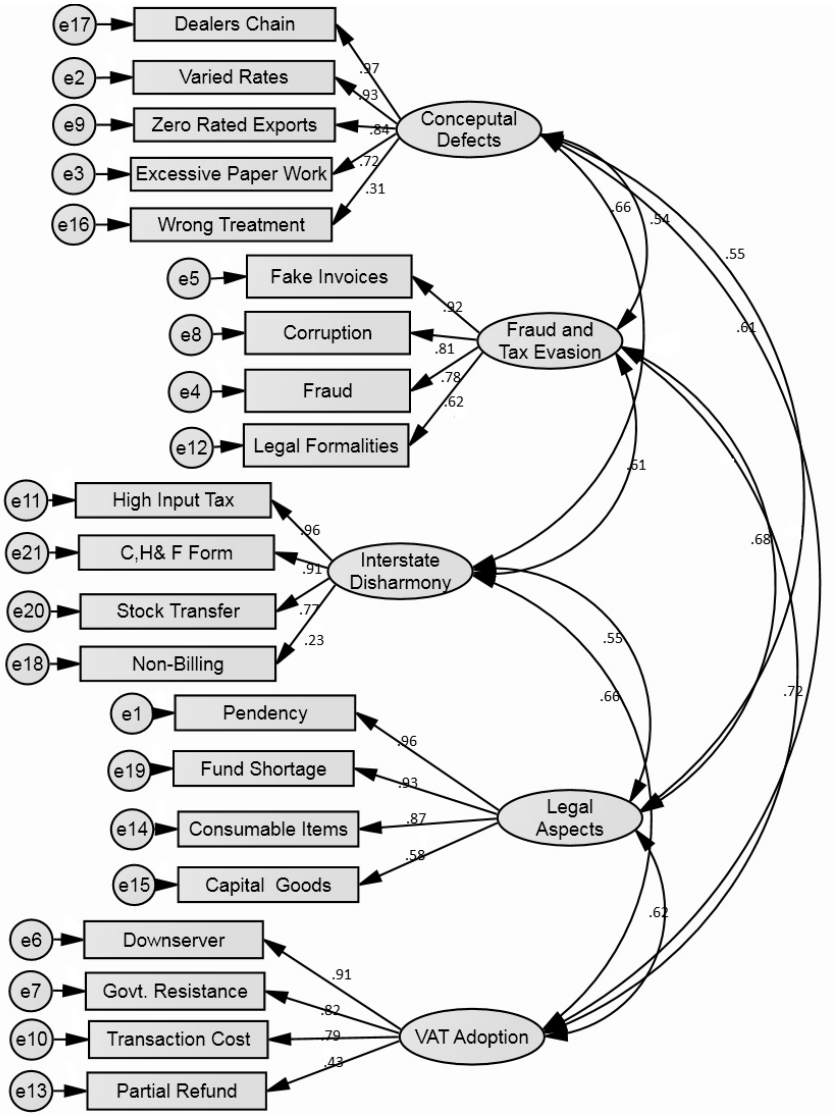
The concept and practice of what most of us know as factor analysis is now considered exploratory factor analysis (EFA), that is, with no or few pre-conceived notions about what the factor pattern will look like. There are typically no tests of significance for EFA. On the other hand, we have a theoretically or empirically based conception of the structure of measured variables and factors, and that enables us to test the adequacy of a particular "measurement model" to the data. This part of the study covers the designing of the model of the five factors extracted by us with the help of EFA as to which factors are more responsible for the accumulated VAT refund. Till date, very meager literature is available on the subject matter and confirmatory factor analysis (CFA) is best suited in such cases. This part of the study covers the testing of the exploratory model developed by the application of EFA (exploratory factor analysis). The exploratory model for the problem of accumulated VAT refund provides five main factors responsible for delayed VAT refund, which are :

(1) Conceptual Defects,
(2) Fraud and Tax Evasion,
(3) Interstate Disharmony,

(4) Legal Aspects ,
(5) VAT Adoption.

The exploratory study suggests that the first main factor which is responsible for the accumulated VAT refund is 'Conceptual Defects'. The literature suggests that the problem of accumulated VAT refund is a natural phenomenon. The process of model testing was carried out with the help of AMOS 18. The five factor proposed model was determined with the help of EFA (Figure 1), which was tested with the help of AMOS 18.0 to confirm the five factors and to determine the estimated model by exploring the various factors causing accumulation of the VAT refund . Which factor is more accountable and which is less dependent upon the factor loading of that very factor ? The exploratory study suggests that the first main factor which is responsible for the accumulation of the VAT refund is the factor named 'Conceptual Defects'. The loading values with respect to the five variables - V17 (dealers' chain), V2 (varied rates) , V9 (zero-rated exports) ,V3 (excessive paper work), and V16 (wrong treatment) obtained with the help of AMOS 18.0 are .97, .93, .84 , .72, and .31 respectively, which indicate that of all the loaded variables, the loading value with respect to one variable V16 is quite low, which creates problems for the proposed model fit. Which variable

Figure 1. Disaggregated Proposed Model Determined with EFA (Model A)



is more relevant is determined by the factor loadings obtained by that very factor. The next very important factor which is responsible for the delayed VAT refund is 'Fraud and Tax Evasion,' which includes four variables, that is, V5 (fake invoices), V8 (corruption), V4 (fraud), and V12 (legal formalities) with loading values being .92, .81, .78, and .62 respectively. Three statements are heavily loaded, while the fourth variable V12 is given a slightly low rating, which in turn may create a problem for the model fit. The 3rd factor that is responsible for the accumulated VAT refund is the 'Interstate Disharmony' in terms of the VAT Act provisions, documentation formalities, and VAT rates. Four statements are loaded on this factor, out of which, three statements are heavily loaded, that is, V11 (high input tax), V21 (Forms C, H, and F), V20 (stock transfer), and V18 (non-bill) with loading values being .96, .91, .77, and .23 respectively, which indicates that the variable V18 is creating a problem for the model because its loading value is quite low. The 4th factor that is accountable for the delayed VAT refund is 'Legal Aspects'. The government plays a vital role in the efficient handling of any legal system, but this factor highlights that the government is also responsible for the accumulated VAT refund (due to mismanagement). Four statements are loaded on this factor, that is, V1 (pendency), V19 (fund shortage), V14 (consumable items), and V15 (capital goods) with loading values .96, .93, .87, and .58 respectively. The loading value in case of e15 may create barriers for the model fit. The fifth factor which is responsible for the augmented VAT refund is 'VAT Adoption,' which is due to the non-implementation of the VAT system effectively. Four statements are loaded on this factor, that is, V6 (server is down), V7 (govt. resistance), V10 (transaction cost), V13 (partial refund) with loading values being .91, .82, .79, and .43 respectively.

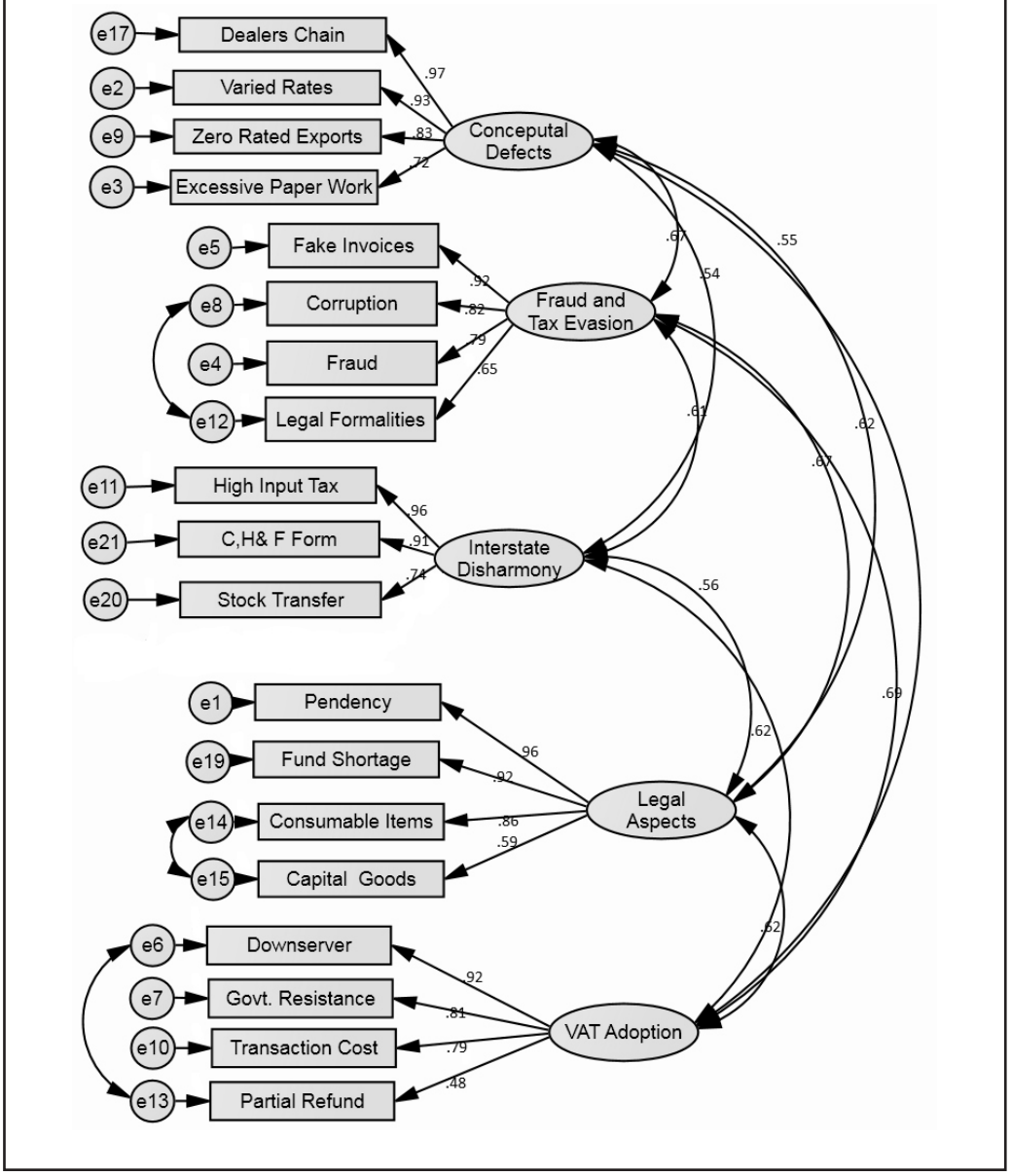
The process of model testing is carried out with the help of AMOS 18 (Figure 1). After identifying five clear factors through principal component analysis, the next step is to confirm the factor structure by applying structural equation modeling (SEM) using AMOS 18.0 to perform the first-order confirmatory factor analysis on the proposed measurement model in Figure 1. The model consists of the first-order five-factor structure, consisting of five latent variables (Conceptual Defects, Fraud and Tax Evasion, Interstate Disharmony, Legal Aspects, and VAT Adoption) with the measurement variables loading in accordance with the pattern revealed in the exploratory factor analysis on the sample. The explored Model A is a totally disaggregated first-order model. In this, 21 items are proposed to measure a single first-order factor causing accumulated VAT refund. This model yields poor model fit indices (χ^2 = 612.73; p <.001; *d.f.* = 20; CMIN/DF = 4.992, GFI = 0.812; AGFI = 0.787; CFI = 0.824; NFI = 0.765; IFI = 0.844; TLI = 0.781; and RMSEA = 0.112). The results indicate that the above proposed model is not reliable as it does not satisfy the requisite of the model fit. The next step is to decide as to which variable should be deleted or which needs to covariate in order to obtain the best model.

The Figure 2 depicts the results of the estimated model obtained with the help of AMOS by deleting some variables which were creating problems while satisfying the properties of the model fit. To obtain the best model which satisfies the basic properties of the model, the next step is to covariate the variable with highest M.I. value. M.I. value in case of variablesV8 (corruption) ←→V12 (legal formalities) is the highest, that is, 63.67 and further, these variables are loaded on the same factor, that is, Factor-2 (Fraud and Tax Evasion), and hence, there is a possibility to covariate these variables. Similarly, in case of two variables, V14 (consumable items) ←→V15 (capital goods), the M.I. value is quite high, that is, 43.12, and further, these variables are loaded on the same Factor- 4 (Legal Aspects). There is a possibility to covariate these variables to obtain the model fit indices. The M.I. value in case of variables V8 (server is down) ←→V12 (partial refund) is the third highest value, that is, 27.11, and further, these variables are loaded on the same factor, that is, Factor-5 (VAT Adoption). There is a possibility to covariate these variables. After the covariation step is over, to obtain the model fit, the variables with the lowest loading value area are deleted because low loading value means that this variable is not responsible for the accumulated VAT Refund.

In case of the first factor (Conceptual Defects) , the loading values of the different variables V17 (dealers' chain), V2 (varied rates) , V9 (zero-rated exports) ,V3 (excessive paper work), and V16 (wrong treatment) obtained with the help of AMOS 18.0 are .97, .93, .84, .72, and .31 respectively, which indicate that of all the loaded variables, the loading value with respect to one variable V16 is quite low, which creates problems for the proposed model fit and hence, it is deleted to obtain the best model fit. Similarly, in case of the 3rd factor (Interstate Disharmony) , the loading values of the different variables V11 (high input tax) , V21(Forms C, H, & F) , V20 (stock transfer), and V18 (non-billing) are .96, .91, .77, and .23 respectively, which indicates that the variable V18 is creating problems for the model because its loading value is quite low, and it needs to be deleted to obtain the best model fit .

After making the necessary changes, the AMOS 18.0 is re-applied to check whether the model satisfies all the properties which are essential for the Model fit. The process of model testing is carried out with the help of AMOS

Figure 2. Disaggregated Model (Model B) (Standardized Estimates)



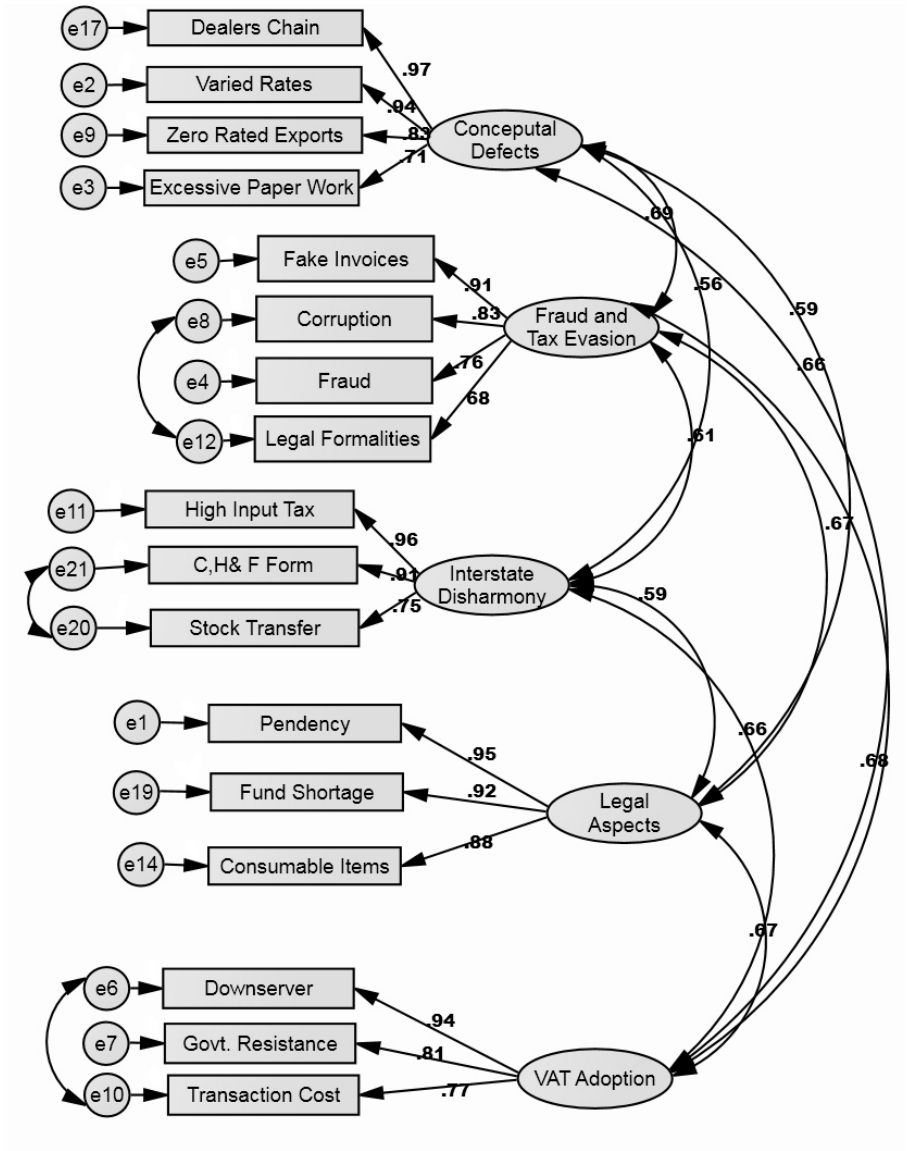
18.0, and a new estimated model is obtained as depicted in the Figure 2. The model consists of the five factor structure, consisting of five latent variables (Conceptual Defects, Fraud and Tax Evasion, Interstate Disharmony, Legal Aspects, and VAT Adoption) with the measurement variables loading in accordance with the pattern. The Model B is still totally disaggregated first-order model. In this, 19 items are proposed to measure a single first-order factor causing accumulated VAT refund. This model yields poor model fit indices ($\chi^2 = 523.21$; $p < .001$; $d.f. = 18$; CMIN/DF = 4.221; GFI = 0.897; AGFI = 0.878 ; CFI = 0.891; NFI = 0.822; IFI = 0.869; TLI = 0.824; and RMSEA = 0.108). The results indicate that the estimated Model B is not reliable as it does not satisfy the requisites of the model fit. The next step is to decide as to which variable should be deleted to obtain the best model.

To obtain the best model fit, few changes are made in the Model B which satisfy the basic properties of the model. The next step is to covariate the variables with the highest M.I. value, provided that both the variables lie on the same factor. The M.I. value in case of variables V21 (Forms C, H, and F) ←→ V20 (stock transfer) is the highest, that is, 22.31. Hence, these variables need to covariate to obtain the model fit. Other variables with highest M.I. value on the same factor V6 (server is down) ←→ V10 (transaction cost) with the highest M.I. value 16.67 need to covariate to

obtain the model fit. After the variables are covariated, to obtain the model fit, the variables with lowest loading value are also deleted. In case of the 4th factor (Legal Aspects), as depicted in the Model B, the loading values of the four variables, that is, V1 (pendency), V19 (fund shortage), V14 (consumable items), and V15 (capital goods) are .96, .92, .86, and .59 respectively. The loading values in case of the e15 are quite low, which creates problems for the model fit; hence, it is deleted to obtain the model fit. Likewise, in case of the 5th factor (VAT Adoption), as depicted in the Model B, the loading values of the four variables, that is, V6 (server is down), V7 (govt. resistance), V10 (transaction cost), V13 (partial refund) are .92, .81, .79, and .48 respectively. Although the loading value of the variable V13 has improved in the Model B, but still, it is very low and creates problems for the model fit; hence, it is deleted to obtain the Model C. After making the necessary changes, the AMOS 18.0 is applied again to check whether the Model satisfies all the properties which are essential for the model fit and a new Model C is obtained as depicted in the Figure 3.

The Model C, which was duly obtained after the requisite modifications, proves to be an acceptable model fit for the data ($\chi^2 = 312.121$, $p < .001$; GFI = 0.941; AGFI = 0.956; CFI = 0.952; TLI = 0.934; IFI = 0.951; NFI = 0.917 ; and RMSEA = 0.041) which indicates that all the indicators loaded significantly on the latent constructs. The values of the

Figure 3. Acceptable Model (Model C)



fit indices indicate a reasonable fit of the measurement model with data. In short, it is the SEM model.

Conclusion and Implications

VAT refund is not effective in Punjab as the dealers still have not received the refunds with reference to the year 2004-05, when VAT was implemented. 40% of the respondents had refund pendency relating to the year 2004 to 2008, while 60% of the respondents had refund pendency relating to the year 2009 to 2012. 36% of the total respondents had refund pendency with the government amounting to up to ₹ 2,00,000/- , 26% of the total respondents had pending VAT refund with the government amounting to ₹ 2, 00,000/-to ₹ 4, 00,000/-, and 38% of the total respondents had pending VAT refund amounting to above ₹ 4, 00,000/- .

Factor analysis technique was applied to ascertain the significant factors which are responsible for the delayed VAT refund. Five factors were extracted (Conceptual Defects, Fraud and Tax Evasion, Interstate Disharmony, Legal Aspects, and VAT Adoption) explaining 68.198% of the variance and having Eigen values greater than unity. The analysis revealed that the main cause of agglomeration of the VAT refund with the government is due to the conceptual defects. The accumulation of VAT refund is a normal phenomenon in almost all the countries which have adopted the VAT system. 'Conceptual Defects' involves the statements such as long chain of dealers and refund is available only after thorough checking; the input tax rate (13.75%) is more than the output (5.5%) tax rate; zero-rated export; VAT involves too many formalities and paperwork; and it is easy to add the input tax in the cost of the product instead of claiming the refund. Under the VAT system, the refund is given only after a thorough checking of the dealers' chain, that is, from the very beginning of manufacturing of a product until it reaches the ultimate consumer. The second important factor which emerged to be responsible for the agglomeration of the VAT refund is due to 'Fraud and Tax Evasion'. More and more fraud means that the government would thoroughly check each and every evidence that is attached with the VAT return. The dealers need to provide the original documents to claim the refund from the government, which in turn increases the paperwork, causing a delay in the refund mechanism. The third significant factor which is accountable for the delayed VAT refund is the 'Interstate Disharmony'. When goods are sold to the neighbouring states, only 2% CST is collected from such a transaction, while the input tax becomes more than the output tax, say 5.5% or 13.75%. Hence, for the dealers levying the tax at a higher rate, a bulk of the refund would be blocked, which results in blockage of working capital and also discourages the transactions between the neighbouring states. The fourth factor 'Legal Aspects' highlights the legal defects in the present VAT system, such as ever shortage of funds with the government, no refund is available on the consumable goods (although these are bought by paying input tax), and the refund on the capital assets can be claimed to a maximum of 4%. The fifth factor which emerged to be responsible for the delayed VAT refund is the ineffective 'VAT Adoption' - which means that the implementation of the VAT system is faulty, for example, while e-filling, the server would go down, which would result in failure to fill the form ; the Govt. resists to refund the VAT and insists on setting off the excess of input tax against the output tax; the partial setting off the refund ; and the excessive transaction cost to claim the VAT refund being other problematic areas.

After exploring the five factors with the help of EFA, the model was tested with the help of confirmatory factor analysis (CFA) to test the exploratory model found by the application of the EFA (exploratory factor analysis). The exploratory model obtained five main factors responsible for the VAT refund such as Conceptual Defects, Fraud and Tax Evasion, Interstate Disharmony, Legal Aspects, and VAT Adoption. Three models were obtained and tested with the help of AMOS 18.0, and the two models were disaggregated models, while one model was acceptable, which fulfilled the requisite of the model fit. The measurement of the acceptable model indicates an acceptable model fit of the data ($\chi^2 = 312.121$, $p < .001$; GFI = 0.941; AGFI =0.956; CFI = 0.952; TLI = 0.934; IFI = 0.951; NFI = 0.917 ; and RMSEA = 0.041), which indicates that all the indicators loaded significantly on the latent constructs. The values of the fit indices indicate a reasonable fit of the measurement model with data. In short, the SEM model confirms the five-factor structure of the variables causing accumulated VAT refund.

To conclude, although the VAT Act has accelerated tax compliance, yet, it has also given birth to a new type of problem, that is, the accumulation of the VAT refund which has made a dent in the working capital requirement resulting in dark prospects for the industry. The problem of the VAT refund cannot be resolved unless the VAT Act is implemented effectively. There is a dire need to release the accumulated refunds promptly so that the industrial units may not migrate to other states or may not face dissolution.

References

Associated Chamber of Commerce (ASSOCHAM). (2006). *Post-VAT exporters spending more on transaction.* New Delhi : ASSOCHAM.

Bhushan, K. (2006). *Working with VAT* (1st Edition, pp. 67-88). New Delhi : Pearson Education.

Bird, R.M., & Gendron, P.P. (1998). Dual VATs and cross-border trade: Two problems, one solution? *International Tax and Public Finance, 3* (5), 429-442. DOI : 10.1023/A:1008646613637

Chatterjee, G., & Biswas, A. (2007). VAT Analgesia for the public or an instrument of Deprivation. *The Accounting World (ICFAI)*, September 2007, 31-41.

Desai, M.A., & Hines Jr., J.R. (2002). Value-added taxes and international trade: The evidence. Retrieved from http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.198.4287&rep=rep1&type=pdf

Feldstein, M.S., & Krugman, P.R. (1989). *International trade effects of value added taxation*. Paper No. #3163 presented at National Bureau of Economic Research Conference on International Taxation, Nassau. Retrieved from http://www.nber.org/chapters/c7211.pdf

FICCI (2006). *FORM C, VAT procedures and compliance stump Indian business : Survey on VAT classification of products in different states. Survey on VAT procedural and administrative hassles*. Retrieved from http://.www.ficci.com/surveys/VAT survey.htm

Grandcolas, C. (2005). The occasional failure in VAT Implementation: Lessons for the Pacific. *Asia Pacific Tax Bulletin*, January/February 2005 , 6-13. Retrieved from http://unpan1.un.org/intradoc/groups/public/documents/unpan/unpan019991.pdf

Harrison, G., & Krelove, R. (2005).VAT Refunds: A review of country experience (pp. 1-43, Working Paper No.05/218). International Monetary Fund. *SSRN*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=888087

IMF Survey (2006). Best practices for value-added tax refunds - How to mend the "Achilles' heel" of the VAT. *IMF Survey , 35*(3), 44-46. DOI:10.5089/9781451967784.023.A007

Keen, M. (2007). VAT attacks! *International Tax and Public Finance, 14* (4), 365-381. DOI : 10.1007/s10797-007-9037-9

Keen, M., & Smith, S. (2007). *VAT fraud and evasion: What do we know, and what can be done?* (WP/07/31). International Monetary Fund. Retrieved from http://www.imf.org/external/pubs/ft/wp/2007/wp0731.pdf

Kumar, S., & Bagga, T.S. (2012). *An analytical study of VAT : A case study of Punjab* (Ph.D. Thesis). Amritsar, Guru Nanak Dev University.

Lent, G.E., Casanegra, M., & Guerard, M. (1973). The value-added tax in developing countries. Staff Papers, *International Monetary Fund, 20*, 350 - 352.

Ministry of Finance. Government of India. (2005). *State-level value added tax* (White paper). The Empowered Committee of State Finance Ministers. On the basis of resolution adopted in the conference of the chief ministers on November 16, 1999. New Delhi, January 17, 2005 .

Prasad, M. (2007). *Introduction of value added tax in Indian states: How has the revenue performance been?* (Ph.D. Thesis). Boston, Harvard University.

Roy, C. V. (2007, July 6). Sports units of Punjab await VAT refund. *The Business Standard*. Retrieved from http://www.business-standard.com/article/economy-policy/sport-units-of-punjab-await-vat-refund-107070601058_1.html

Sharma (2005). Report presented in a national conference on VAT. New Delhi : Federation of Indian Export Organization (FIEO).

Shoup, C. (1988). The value added tax and developing countries. *The World Bank Research Observer, 3*(2), 139-156.