

The Optimal Capital Structure under the Conditions of Employment: An Application of Theory X and Theory Y

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Abstract: *The traditional theories governing the capital structure decisions completely ignore the human side of the enterprise (e.g. attitude to work). The objective of this paper is to identify the optimal mix of Theory X and Theory Y type employees to be employed by an organization in order to maintain (i.e. unaffected by the type of employees at work) the optimal level of capital structure. The classification of an employee into Theory X and Theory of Y is made based on the organizational contribution conditional on motivation rather than merely considering the attitude to work. Internal motivation of an employee (i.e. inherently likes or dislikes) alone cannot be identified as the criterion of recognizing employees under Theory X and Theory of Y. Level of attainment of needs within the organization, psychological state of mind and cultural dimension (i.e. individualism-collectivism) of the individual attached to the organization are the main behavioural criteria that distinguish between Theory X-type and Theory Y-type employees. This paper shows that the optimal capital structure is unaffected by the employment mix at the optimal level of Theory X and Theory Y type employees employed by an organization. The firms' managers must therefore consider the behavioral aspects of employees (e.g. attitude to risk) when making organizational decisions such as financial decisions. For example, mismatches in the capital structure can be explained by a careful analysis of behavioral aspects of employees. By making necessary adjustments to the current employment mix, the firm could eliminate the mismatches in the firm's capital structure.*

Keywords: theory X and theory Y; motivation; comfort zone; hierarchy of needs theory; capital structure; and risk-return tradeoff

JEL Classification: M00, M12, M14, M21, G32, G33

Introduction

Four years before his demise, Douglas McGregor puts forward the theory of enterprise management profoundly known as theory X and theory Y¹. The theory iden-

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tifies behavioral characteristics of human at work under two different entities. The theory X suggests that the employees inherently dislike to work and avoid responsibilities, if they are not aligned with their personal interest. The managers therefore believe that the employees must often be monitored and supervised. The best way to approach this type of employees at work is to apply themselves where the authoritarian style of management facilitates such. Theory Y suggests that the employees are self-motivated to work, without expecting direct benefits in return. The managers allow them a decent degree of leverage to learn from mistakes and experience. McGregor identifies this as soft approach where less controls and supervision are exercised. The most appropriate management style that suits this approach is the hands-off management style. If an organization employs Theory X type of employees, the management needs to get involved in the organizational decision making process in order to utilize the skills and abilities of employees (Lawter et al 2015)

Theory X and theory Y are built upon certain assumptions and organizational conditions. The management must provide the necessary conditions of employment, for example, equipments, labour relations, information technology and compensation management etc. While these conditions are necessary for employees to perform the job, the presence of these factors does not necessarily motivate employees (Herzberg 1966). The presence of these factors however avoids employee dissatisfaction at work. Recent evidence also confirms that the factors such as pay, work environment and employee training etc. impact employee job satisfaction (See e.g. Güngör 2011; Shahzadi,et al. 2014; Omollo and Oloko 2015; Kiruja and Mukuru 2018). These factors are identified as hygiene factors of motivation by Herzberg (1966). On the other hand, there are certain factors such as growth opportunities, recognition and responsibilities etc. which can be of some instruments of motivation. Also, non-financial employment benefits are strongly associated with employee motivation. For example, the opportunities for promotion have a profound effect on the motivation of the employees (Woźniak 2018). Herzberg's theory of motivation has one grey area that needs more explanation. The maintenance factors (hygiene factors) prevent dissatisfaction of employees at work but the linkage between employee contributions to the organization, under a given level of motivation, is clearly salient in the theory, although he assumed that they are correlated².

The Theory X and Theory Y is closely related to the hierarchy of needs theory of Maslow (1943) where the expected needs of employees or managers of an organization could be identified in a hierarchical manner. Maslow (1943) argues that people have five main needs in order of their importance. The five types of needs are the physiological, safety, social belongingness, self-esteem and self-actualization needs. Physiological needs are the basic needs required for living, for example, food, water, shelter. After satisfying the basic needs, human desire for safety such as protection from natural disasters, violence and threats etc. Social belonging becomes a human need when basic and safety needs are satisfied. Humans prefer to feel a sense of

belonging and care within the family as well as in the surrounding. After satisfying the social needs, people seek for status in the society and concern about receiving recognition and respect from others. After all, people visualize their desired end in terms of realization of the potentials in life. Hierarchy of needs can also be applied in organizational setting. Starting from the lower level in the hierarchy, employees first look for the job and the pay in addition to working environment (physiological needs). If satisfied, they would prefer to work under proper security of their job and themselves such as terms of employment, insurance and pension scheme etc (security needs). Employees usually feel comfortable of working when they are on good terms with others in the organization. This is very important in group or team-work based organizations as many organizations nowadays have workgroups. Employees often seek relationships at work and expect the superiors to provide them with the opportunity for coordination and co-operation with other divisions and departments in the organization (social needs). Once these three needs are satisfied, employees look for self-esteem, a level of respect from others and praise (esteem needs). A proper and fair performance appraisal system, timely feedback and recognition of outstanding achievements at work are some of the prerequisites of the retention of right employees. After all, employees visualize their desired end in the organization as the highest level to be achieved (self-actualisation). The management must make available the conditions for personal development, training and opportunity for promotion.

Nine years later, Alderfer (1969) develops a theory recognizing three main needs from the hierarchy of five needs of Maslow (1943). He introduces a three-fold conceptualization of human needs: existence, relatedness, and growth, where he tests the theory by administering questionnaires for 110 employees of a bank³. According to his findings, people with existence need care about necessities for work such as their pay, organizational conditions of employment and incentives etc. Although he assumes that the accomplishment of lower-level needs is not a prerequisite for the emergence of higher-order needs, it is obvious that the relatedness needs such as interpersonal relationships, preference for recognition and respect emerge after satisfying the basic needs – if the psychological meaningfulness prevails for every employee engagement. An employee does not think for new ideas, promotions and advancements etc until he is fairly paid at work. The human motivation for these needs is identified as desires for growth by Alderfer (1969).

The current literature does not identify how the human side of an organization affects its capital structure decisions. Except for some indirect linkages such as the impact of attitudes and preferences of employees on capital structure decisions (Brockman *et al.* 2010; Cronqvist *et al.* 2010; Malmendier *et al.* 2010; Faccio *et al.* 2016; Cain *et al.* 2016), the direct linkage between capital structure and motivation of employees has not been broadly documented using any relevant theories of motivation (e.g. Theory X and Theory Y). The type of attitude (i.e. inherently dislikes to work or inherently likes to work) of employees has organization-wide consequences

(Steensma et. al., 2000) including implications for financial management aspects of organizations. The nature of the attitude, for example, attitude to risk impacts financial leverage of firms, if employees engaged in financing prefer debt over equity. On the other hand, the cultural dimension of individuals impacts attitude to work (Farh et. al., 2007; Walumbwa et. al., 2007) and behavioural or psychological state of mind of employees impacts attitudes and work performance (see e.g. White 2009). The interconnected dependencies between psychological state of mind and cultural dimension have implications on level of attainment of needs in an organization (Chung and Mallery 1999). In addition, how the hierarchy of needs, psychological state of mind and culture dimension of employees could impact the decision rule of classifying Theory X and Theory Y type employees is unheard. This suggests that the capital structure decisions cannot simply be made disregarding the human side of an organization.

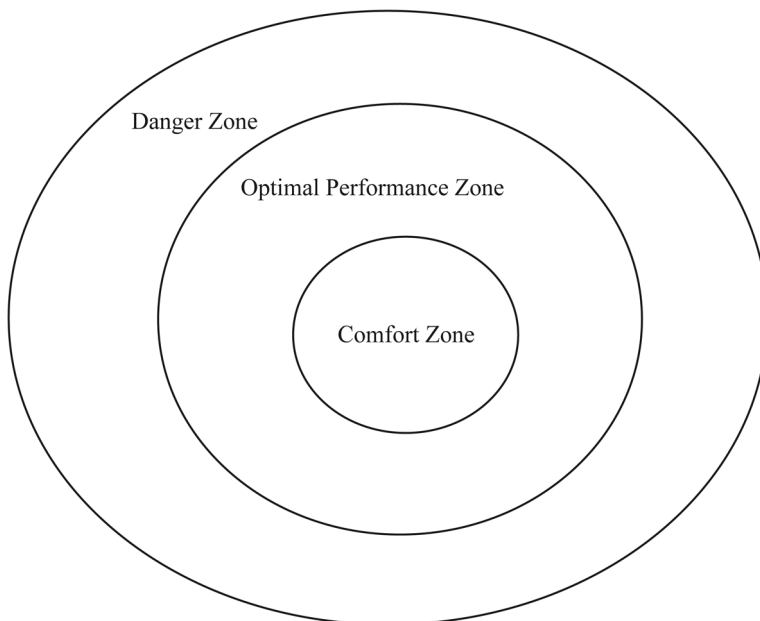
The objective of this paper is to examine the impact of employee motivation on capital structure decisions. In doing so, this paper broadly documents the main elements that determine behavioural criteria of classifying or recognizing an employee under Theory X and Theory Y. This paper contributes to the literature by identifying the optimal level of Theory X and Theory Y type employees that an organization must employ in order to have no impact on the optimal capital structure. The paper is organized as follows. Section two discusses about the interconnection between comfort zone, cultural dimension, hierarchy of needs theory and motivation theory Alderfer. Section 3 discusses as to how the optimal capital structure can be maintained under the employment of Theory X and Theory Y employees. Section five provides the concluding remarks.

Beyond Hierarchy of Needs

Another aspect that determines whether a worker or an employee belongs to theory X or theory Y is the psychological state of mind. May *et al* (2004) show that the psychological conditions are positively related to different behavioral aspects of work (e.g. job enrichment, engagement, work role fit). Psychological conditions influence the extent of employee engagement. Scholars find a positive association between employee engagement and labour cost (See e.g. Brown 2013). Al Jerjawi (2016) shows that the performance management approaches in the UAE context are highly dependent on each employee's cultural dimension. *The theory X and theory Y is silent about the psychological states of the employees in the course of motivation under given conditions of employment, which determine whether an employee or a manager could be identified under theory X or theory Y.* The most appealing framework to explain this phenomenon is the analysis of performance management by the psychological state of individuals attached to an organization, which is pop-

ularly known as 'Comfort Zone' (see Figure 1). White (2009) defines comfort zone as 'the comfort zone is a behavioural state within which a person operates in an anxiety-neutral condition, using a limited set of behaviours to deliver a steady level of performance, usually **without a sense of risk**'. The framework is built upon two psychological states (i.e. levels) of employees: the optimal performance level and the danger level. As depicted in Figure 1, the transition from comfort zone to optimal performance stage occurs when the performance can be enhanced by some amount of stress and anxiety. Both stress and anxiety improve the performance until certain level of arousal is reached and exceeding such will result in declining performance due to higher level of anxiety and stress. The idea is presented under the assumption that the conditions of employment are at their optimal level. That is, the employer provides the conditions necessary to carry out the employment. On the other hand, whether an employee belongs to an individualists' or collectivists' family⁴ also determines the behavioral characteristics of an employee at work. Moorman and Blakely (1995) show that the employees who hold collectivistic values or norms are more likely to demonstrate organizational citizenship behaviors. Li et al (2015) find that the collectivism-oriented HRM approach has a positive effect on employees' job satisfaction.

Figure 1: White's Concept of Performance Management



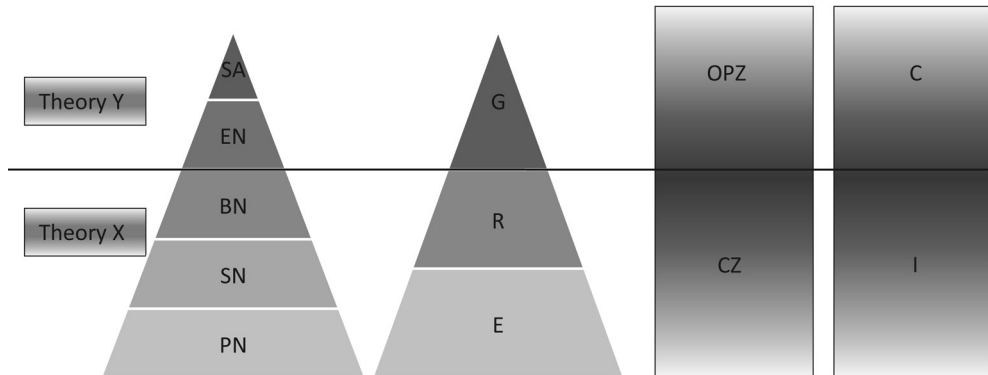
Source: White (2009)

Scholars have clearly shown that the organizational citizenship behaviors positively impact the organizational performance (See e.g. Mackenzie *et al* 1991; Mackenzie *et al* 1993; Podsakoff *et al* 1997; Allen and Rush, 1998). Singelis (1998) argues that the employees belong to individualists' family tend to give priority to individual goals than the work group. He also argues that the collectivists define themselves as a part of the group whereas the individualists are more concerned about the self-concept, independent from groups⁵. Collective voice in management decision-making is an essential aspect of collectivism (Purcell 1987). Theory Y suggests that the employees are internally motivated to work and enjoying working. The research findings suggest that the collectivism is significantly associated with internal motivation, enthusiasm and reward seeking behaviour (Walker 2009). Nowadays, every organization has work groups and cross-cultural communication has become a critical success factor of work group performance. This is more applicable for organizations having subsidiaries or branches overseas. If the employees inherently like to work, they should be able to willingly cope up with the goals and objectives of the work group or the work organization. The internal motivation alone is not sufficient for Theory Y type employee to succeed unless possessing collectivists' traits in contemporary work setting. Therefore, type-Y employees or managers can be labeled as collectivists. To classify an employee under theory X or theory Y, one must keep the following representation in mind.

$$\text{Theory X or Theory Z} = f(N, P, C) \quad (1)$$

Where N the level of attainment of needs within the organization and P is the psychological state of the individual and C is the cultural dimension (i.e. individualism-collectivism) of the individual attached to the organization. The representation (01) is written on the assumption that the employment conditions of the organization are at their optimal level and the management is responsible to provide the necessary conditions of employment (e.g. necessary equipments and labour relations and appraisals). Since the Theory is undetachable from the three variables above, the idea could be better illustrated as follows.

Figure 2: A Holistic View of Theory X and Theory Y



Notes: OPZ-optimal performance zone; CZ-comfort zone; C-collectivistic; I-individualistic
 Source: Author's presentation.

As Figure 2 illustrates, if an employee is to be recognized under theory Y, he must have attained the level of physiological (PN), security (SN) and belongingness needs (BN) (see especially Oh 1976, pp. 78-79). According to the theory, the motivation at one stage in the hierarchy is conditional on the satisfaction prevalent at the preceding stage. Therefore, the internal motivation, enthusiasm or willingness to work may be affected by the psychological state of the employees in the absence of three conditions above. These conditions are related to the psychological and physiological needs⁶ and are not directly related to the enrichment of the job itself. Self-esteem (EN) and self-actualization needs (SA) are directly related to the enrichment of the job. They are not necessarily subject to the conditions of employment but satisfaction of lower-level needs is a must to sustain or achieve these two needs. An employee could still perform the tasks in the job description and discharge his responsibilities at these two levels of attainment. ***Moreover, an employee cannot be recognized as a theory Y employee upon satisfying his needs up to belongingness needs-level because his contribution to the organization only justifies his attainment of necessities for the job (i.e. cost).*** Belongingness is necessary for retention of the job, for example, a good relationship between other employees in the department or other department may help defend the position in case of firing. On the other hand, an unsatisfied employee seeking belongingness needs may, for example, not think for promotions or higher titles or even motivated to like the job, if the organization does not recognize employees for their unique efforts and accomplishments or if they feel that their contributions are not valued and appreciated (See e.g. Huppert 2017). A vast majority of scholars document a strong positive relationship between employee motivation and employee performance and, as such, optimal performance can be achieved at a higher level of motivation of employees (Plantinga 2006; McClean and Collins 2011). *Even if an employee is motivated by the accomplishment of physiologi-*

cal, safely and belongingness needs, such motivation does not bring any additional benefits to the organization because those needs are related to the person and the position of the job itself (e.g. justifies conditions of employment)⁷. The second hierarchy is the interpretation of needs given by Alderfer (1969) recognizing existence (E), relatedness (R), and growth (G) as the needs required for motivation of a person at work. The same arguments apply as they are interrelated concepts of the same paradigm. The distinguishing feature of theory X and theory Y employees with respect to application of hierarchy of needs theories, as above Figure depicts, is; **whether the contribution to the organization on so called willingness (motivation) to work justifies only the conditions of the employment**. Although theory X employees may be born in the lower region as in Figure 2, *their contribution to the organization on willingness (i.e. motivation) justifies only the conditions of employment*. The Figure 3 illustrates when and under what conditions that theory Y or theory X employees can be recognized on their conditional contributions.

Figure 3: Organizational Contribution under Theory X and Theory Y

Theory X or Theory Y	Contribution due to the organization	Level of attainment
Theory X	A. Contribution at this level (<i>employee motivation</i>) = 0 because such contributions set-aside the organizational conditions of employment (i.e. cost).	PN, SN, BN, E, R
Theory Y	B. Contribution to the organization at this level (<i>employee motivation</i>) > 0 (i.e. conditional excess contribution is positive).	EN, SA, G

Note: Symbol (|) is used to denote 'condition'.

Motivation is not independent from the psychological state of mind. The theory of motivation assumes that people are motivated upon satisfying their desires or needs, but the psychological state of the person is unheard of at the same time. Sometimes, employees are not only motivated by attainment of needs, but also their behaviour is directly linked to attitudes (Dickson, 1973). Therefore, the person's mindset with regard to his employment may matter most in the course of motivation. If a person stays in the comfort zone where no advancements or opportunities are foreseen, although they are clearly visible, he cannot be recognized under theory Y⁸. Such an employee takes no or little risk and is incapable of working under stress and pressure (see Figure 1). In fact, these employees may inherently dislike working (or like working for the sake of earning some money) because they do not like to go beyond the current job description, while the elements of work are ever changing. This is not so in a static working environment where the elements of job have no incremental changes⁹. White (2009) intuitively illustrates that under what conditions the transition between zones could occur and his analysis implies that the transitions occur due to **factors affecting the job**. As such, an employee in the comfort zone does not belong to theory Y.

Although the direct linkage between collectivism or individualism and motivation has not been broadly documented with facts, a positive relationship between collectivism and organizational citizenship behaviors¹⁰ has been shown by Moorman and Blakely (1995). Van Dyne *et al* (2000) show that the organizational-based self-esteem mediates the effects of collectivism whereas Euwema (2007) finds that the work group culture moderates the relationship between directive and supportive leadership, and organizational citizenship behaviour. An employee from the individualists' family would not be able to successfully perform the job in contemporary work setting because he may not be able to be accountable for the collective efforts of the organization in most of the cases. The growth opportunities foreseeable and self-actualization or self-esteems are realizable with the support and collective efforts of the organizations and no employee could achieve them with self-concept alone in the contemporary group or divisional work setting. Chung and Mallery (1999) find that one's comparative self-esteem is much higher in collectivism. Triandis (1995 p. 5)¹¹ argues that *'People who have been raised in collectivist cultures tend to "cognitively convert" situations into collectivist settings; people who have been raised in individualistic cultures tend to convert situations into individualistic settings'*. He also argues that people from collectivists' family have more collectivist cognitive elements whereas individualists have more personal constructs (See Triandis 1995 pp. 7-8). Therefore, theory Y-type employees most likely belong to collectivists' family.

The Optimal Capital Structure and Theory X and Theory Y

No satisfactory resolution has been reached in the current literature with regard to the optimal number of people with two different attitudes to work (i.e. like or dislike) should be employed so as to have no financial impact of employment on the optimal capital structure. Since the Nobel Prize winning seminal paper by Modigliani and Miller (1958), a number of scholars examine the implications of corporate financing for the overall cost of financing. However, the characteristics of human resource (especially the psychological characteristics) involved in business and financial decision making of an organization have been largely ignored in financial research. Along these lines, Berk *et al* (2010) examine the relationship between capital structure and managerial compensation, and argue that the firms with more leverage should pay higher wages. Leverage increases the cost of compensation in the event of bankruptcy and results in additional burden on the profitability of the firm. However, Agrawal and Matsa (2013) find that higher unemployment benefits increase the corporate leverage and, as such, the cost of employment has an impact on the financing decisions of a firm. A another section of scholars show that the capital structure is affected by the personal attitudes and preferences of the corporate members (Bertrand and Schoar 2003; Graham and Narasimhan 2004; Lewellen 2006; Brockman

et al. 2010; Cronqvist *et al* 2010; Malmendier *et al* 2010; Faccio *et al* 2016; Cain *et al* 2016). However, the literature is silent as to whether the physiological factors of motivation could impact the corporate financing decisions.

Consider firm i whose owners (i.e. equity holders) provide necessary conditions (e.g. equipments, training, pay management system)¹² of employment for all members of the firm. The presence of these conditions does not have any positive implications for the psychological state of employees at work in the organization because they are the general conditions of employment of any firm in the industry g . Assume that the labour market of industry g is perfectly competitive and labour requires industry specific skills and knowledge for all levels of operations of the firm i , so that no firm could benefit from the substitution of labour between industries. Assume that the firm i maintains its optimal capital structure at time t , so that the expectation of the equity holders of any firm in this industry can be written in the sense of Modigliani and Miller (1963) as,

$$K_{egt} = K_{eut} + (1 - T)(K_{eut} - K_{dt})D / E \quad (1)$$

Where K_{eg} is the cost of equity of a geared firm and K_{eu} is the cost of equity of an ungeared firm. D denotes the value of debt and E stands for value of equity. T is the tax rate. Assume that the industry is not exempted from tax, so that each firm will have the opportunity to benefit from tax savings on the cost of debt capital and all tax allowable outgoing expenses. In the sense of Sharpe (1964), K_{eu} could be estimated *before the optimal capital structure is determined* as,

$$R_{it} = R_{ft} + \beta(R_{mt} - R_{ft}) \quad (2)$$

Where R_{it} (or K_{eut}) is the return of firm i at time t and R_{ft} is the risk free rate of return of the economy, which is usually proxied by the Treasury bill rate. R_{mt} is the return on market portfolio. The coefficient β measures the systematic risk of security i . Among other factors that determine whether an employee could be categorized under theory X or theory Y type, psychological state of the employee matters most, in which, the attitude to risk is a key concern. The theory suggests that employees occupying at optimal performance zone are likely to take risk in the course of employment (White 2009). Positive emotions, on the other hand, stimulate the risk seeking behavior of mankind (Trimpop, 1994) and, more importantly, the higher perceived needs motivate higher level of risk taking to meet the desired needs (See carefully Payne, 2017). Scholars show that, the extent to which a group of people makes risky decisions under uncertainty is largely affected by cultural differences in interpersonal relationships between individualism and collectivism (See Triandis *et al* 1988). An employee belongs to collectivists' family will never be reluctant to take risky financial decisions because such an employee has the backing from the group or connected employees. This family tends to exhibit a grater attitude towards cooperative strategies which sometimes facilitates risk-sharing among members of the work group (Steensma *et al* 2000). Collec-

tivists are more career-committed and often seek for opportunities at work (Haar and Brougham 2013). Conversely, employees from the individualists' family are reluctant take risk because they have strong emphasis on security of the job and the position and, as such, individual risk-taking is usually discouraged (See especially Eroglu and Piçak 2011). Even if they take risk, no one will back them for mistakes nor do they receive the best guidance from the collective effects of the work groups.

More importantly, the closeness between group members (which is apparent in collectivist culture) leads to a greater risk-taking behaviour in decision-making than when alone (Kim and Park 2010, p. 382). Employees may feel comfortable in making decisions when they are surrounded and backed by members in the work group. Therefore, the collectivists are eager to take risk in business finance decision making than that of individualists.

As discussed earlier, the achievement of higher level of needs such as self-esteemed and self-actualization (or growth in the sense of Alderfer 1969) requires exercising psychological judgments which are associated with personal characteristics rather than the characteristics of the job (its conditions) itself. For example, in order to achieve the desires at work, one must demonstrate a competent behavior on the job, which eventually requires risk-taking irrespective of the title or hierarchy in the organization. Employees who fall under this category can be recognized with reference to theory Y. Recognition of an employee under risk-return tradeoff can be determined whether his risk-taking benefits in excess of the conditions of employment of the organization and, if not, he is deemed to come from theory X family. The following figure illustrates under what conditions that an employee can be recognized under theory X or theory Y based on risk-taking behaviour.

Figure 4: Risk-return Tradeoff under Theory X and Theory Y

Theory X or Theory Y	Results of business finance decisions	Level of attainment
Theory X	B. Return (employee motivation) = 0 because such conditional returns set-aside the organizational conditions of employment (i.e. cost).	PN, SN, BN, E, R
Theory Y	A. Return (employee motivation) > 0 (i.e. conditional excess return to the organization is positive).	EN, SA, G

Note: Symbol (|) is used to denote 'condition'

Striking a balance between theory X and theory Y employees is utmost important and the trade-off will have significant implications for the risk management aspects of the organization. Henceforth, there will be two main financial implications of employing theory X and theory Y-type employees for capital structure decision.

1. Employing theory X employees over the optimal mix will result in increased staff cost (including all incidental cost), because the organization will have to incur cost on additional efforts to get the work done, for example, supervision, overtime payments, counseling and motivation. The firm will also have to incur

administrative and other costs due to poor working (e.g. decline in profitability or losses). This will eventually lead to an increased agency cost (note that this cost is incurred in addition to the provision of necessary conditions of employment). These costs may be questioned by the equity holders at the shareholder meeting (i.e. AGM) and will ultimately be borne by them in the form of dividend forgone.

2. Employing theory Y employees over the optimal mix will result in excessive financial risk¹³, because they are likely to take risk in the pursuit of higher level needs and satisfaction. This costs the firm as the cost of debt servicing (due to risky decisions of employees who are directly involved in financing) and cost of financial distress (due to risky financial decisions of all levels of employees in the organization) are increased.

Assume that firm i distributes entirety of its earnings as dividends. The above behavior impacts common stockholders in two main ways. Since theory X-type of employees are generally risk-averse employees, they are reluctant to take risk in managing finance but maintain the current status quo exists at time t .

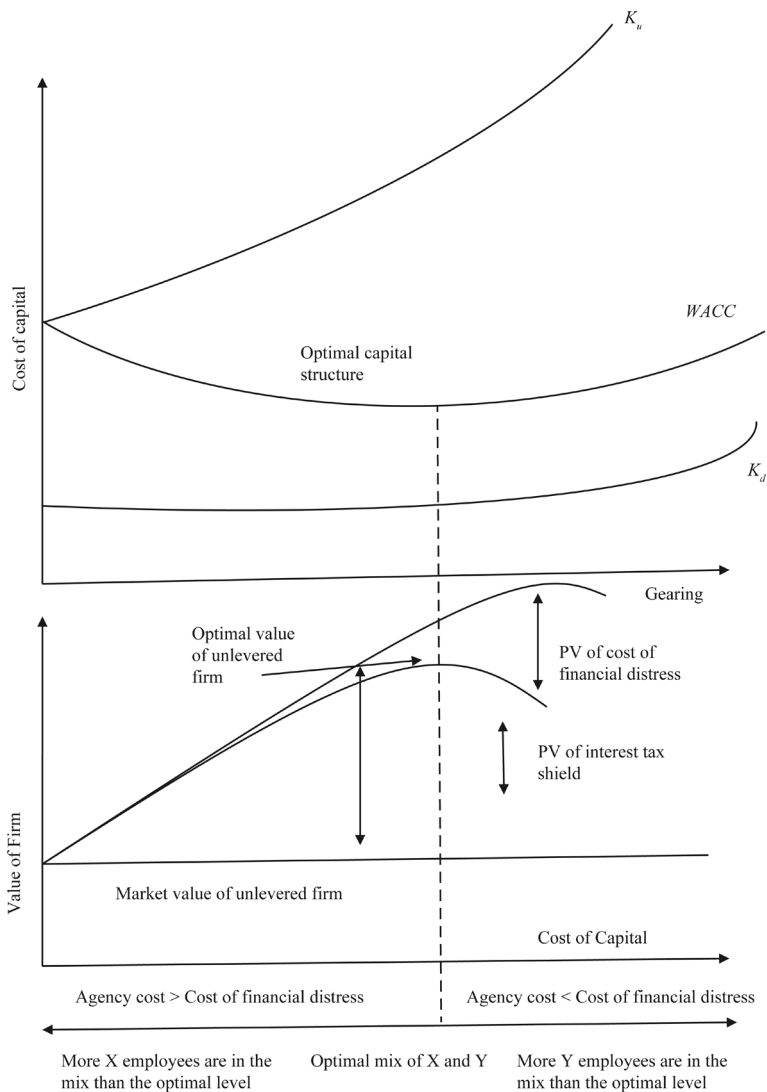
Employing theory X employees over the optimal mix will result in increased agency cost and a moderate level of cost of financial distress (after a certain level of leverage) but the firm will forego tax savings on interest cost, given the lower level of financial leverage. Assume that the firm could distinguishably identify profits and losses, agency cost and the change in cost of debt against the change in theory X or theory Y-type employees. The optimal mix of employees could be determined when the mix of theory X and theory Y employees are employed as¹⁴,

$$\frac{(\Delta AC + \Delta CFD)_{XY} - ((\Delta AC + \Delta CFD)_{XY}) * T}{K_{eu}} = \frac{\Delta I_{XY} - (\Delta I_{XY} * T)}{K_d} \quad (3)$$

Where $(\Delta AC + \Delta CFD)_{XY}$ is the change in agency cost and the cost of financial distress due to change in the mix of theory X and theory Y employees and ΔI_{XY} is the change in cost of borrowing (i.e. cost of interest) due to change in the mix of theory X and theory Y employees¹⁵. The optimal level of capital structure can also be viewed from the perspective of capital providers. The optimal level of capital structure is unaffected by the mix of theory X and theory Y employees at the breakeven point (i.e. optimal level) as in equation (3). The term in the left-hand side directly impacts the wealth of equity while the term in the right-hand side impacts the value of debt holders. However, the change in agency costs, tax cost and cost of financial distress for the purpose of equation (03) is due to change in the mix of employees. The above equation can be written as per the extensive explanations provided on Figure 3 and 4. This formulation requires certain assumptions which are implicit in the optimal capital structure framework¹⁶. As the family of traditional capital structure theories assumes, business risk is assumed to be constant at different levels of capital structure of the firm, and, as such, no growth in dividend is expected. Also, the issue

and servicing cost of equity is higher than debt and they are assumed to be constant throughout. The cost of financial distress and agency cost are assumed to be expensed against earnings before interest and tax (EBIT). There is only debt and equity in the capital structure. At the optimal mix of Theory X and Theory Y employees, the capital structure decisions reach an equilibrium state in which opposing forces or influences from either type of employees are balanced.

Figure 5: Optimal Mix of Theory X and Theory Y Employees



Source: adapted from Myers (1977) and Fama and French (2002) idea on optimal capital structure.

The Figure 3 shows how the optimal mix of theory X and theory Y types of employees could be determined with reference to the optimal capital structure theory in finance. When the theory X-type employees are increased in the mix, the firm will have to incur more staff and administration costs to manage the employees as discussed above. Moving the mix from optimal level to left (i.e. employing more theory X-type of employees) will therefore result in higher agency cost and moderate level of cost of financial distress. At these points on the line, the agency cost is higher than the cost of financial distress. Since theory X-type of employees are risk-averse, the leverage starts decreasing at every move from the optimal level of mix of employees to left and, when the firm is staffed with all theory X-type of employees, the tax savings on interest cost approaches zero because there will be no or little debt capital in the capital structure. When the mix of employees is moved from the optimal level to right (i.e. employing more theory Y-type of employees over the optimal mix), the firm will have increased level of cost of financial distress, given excessive financial leverage¹⁷ because these employees take excessive risk by leveraging the firm's capacity to increase the capital by issuing more debt. The most convenient and quickest mode of financing the business needs is the debt capital. The equity financing requires often-lengthy approval process and is relatively expensive than debt. Of course, Y-type of employees must look for every possible avenue to reduce cost of financing (by choosing the most appropriate and quickest mode) and increase profits by increasing the volume of business, in the pursuit of higher level needs and satisfaction. As such, they seek the quickest, less cumbersome and widely available models of financing such as debt financing as the firm needs to respond quickly to the changing business environment and needs. Although the increase in Y-type of employees in the employment mix reduces the agency costs, the firm will have to incur cost of financial distress due to imposition of restrictive conditions on debt covenants by the debt providers and the cost associated with the use of debt (e.g. interest) (See e.g. Fabozzi and Peterson 2003).

Conclusions

The contemporary theories of capital structure assume that the capital structure is independent from the behavioral traits of people within the organization. The theories of motivation, on the other hand, suggest that the stages and the expectations at each level of motivation are not independent from the physiological state of mind. The decisions made at work are affected by the physiological states at different levels of motivation of employees (See especially Sánchez *et al* 2012). Capital structure decisions are affected by the wealth of equity and debt holders and the optimal level of capital structure can also be viewed from the perspective of capital providers. This paper shows that the optimal capital structure is unaffected by the employment mix at the optimal level of Theory X and Theory Y employees employed by an organi-

zation. That is, when the present value of change in agency cost and cost of financial distress (net of present value of tax savings) equals the present value of interest cost (net of present value of tax savings).

The firms' managers must therefore consider the behavioral traits of employees (e.g. attitude to risk) when making organizational decisions such as financial decisions. For example, mismatches in the capital structure can be explained by a careful analysis of behavioral aspects of employees. Type Y employees are more likely to make risky capital structure decisions while Type-X employees avoid risk. By making necessary adjustments to the current employment mix, the firm could eliminate the mismatches in the firm's capital structure. At this point of the optimal mix of Theory X and Theory Y employees, the capital structure decisions reach an equilibrium state in which opposing forces or influences from either type of employees are balanced.

There is a direct link between theory X and theory Y and the hierarchy of needs theory of Maslow (1943) and Alderfer (1969). The motivation and expectations differ from one stage to another in the hierarchy of needs and the behavioral response to the organization. Employees must be satisfied with the accomplishment of needs at one stage, before advancing to the next stage of expectation. Until psychological, security and belongingness needs are satisfied, an employee does not think about the esteemed and self-actualization needs attached to the job. Whether an employee belongs to theory Y or theory X should be determined with reference to the organizational contribution (e.g. in the course of risk-taking) conditional on motivation at different levels of attainments in the hierarchy of needs, because employees' conditional contributions differ from lower level to higher level in the two-level hierarchy of needs as depicted above (Figure 2).

Those who work in the comfort zone are risk-averse type employees. Such an employee takes no or little risk and is incapable of working under stress and pressure. In fact, these employees may inherently dislike working or work for the sake of earning with no self actualization or esteemed goals in mind because they do not like to go beyond the current job description while the elements of work are ever changing. A moderate level of stress is an essential factor of motivation and work performance (Bakker and Demerouti 2014). As such, Theory Y employees are less likely to be recognized in the comfort zone.

Theory Y suggests that the employees are internally motivated and enjoying working. Nowadays, every organization has work groups and cross-cultural communication has become a critical success factor of work group performance. This is more applicable for organizations having subsidiaries or branches overseas. If the employees are inherently like to work, they should be able to willingly cope up with the goals and objectives of the work group or the work organization for which the collectivists' blood is needed. As these employees cannot achieve their desired esteemed and self-actualizations without collective efforts of work groups in the contemporary organizational settings (See Van Dyne et al 2000; Euwema 2007), Theory Y-type of employees should belong to collectivism.

NOTES

¹ The terms ‘theory X and theory Y’, and ‘The theory’ are used interchangeably, without distorting the general definition.

² He assumes a strong correlation between job satisfaction and productivity.

³ Conclusions are therefore based on the organizational settings of the bank and the context.

⁴ Individualists’ family or collectivists’ family means a family of people possessing individualistic or collectivistic behavioral traits.

⁵ A more clear explanation of the meaning of individualism and collectivism has been given by Schwartz (1990)

⁶ Rather, the enlargement of the job, for example, lengthening the scope or adding more activities to satisfy the needs of employees at this level can be done.

⁷ For example, belongingness need is a necessary condition of employment for an employee to continue the job and perform the job tasks as job description lists.

⁸ The theory assumes that the employment conditions influence the state of mind and the employees are under the control of working environment. However, it is assumed that the work environment (i.e. necessary conditions for employment) is constant (once provided, all required conditions by the employer) and the transition between zones occurs due to factors affecting the job itself and the attitude to work (e.g. traits).

⁹ The assumption of a static business environment at the current pace of technological advancement is undesirable. The everyday implications of technology for job characteristics have been shown about four decades ago by Billings et al (1977).

¹⁰ Including employee commitment. The two families – collectivists and individualists – are concerned at individual level (not at the national or organizational level). A person from a collectivistic country may belong to individualists’ family.

¹¹ Latest version is published by Routledge in 2018.

¹² They are the necessary conditions required to carry out the tasks in the job description.

¹³ However, as capital structure theory assumes, the business risk is assumed to be constant throughout at different levels of financing.

¹⁴ Fama French (2002) interprets the optimal capital structure with reference to marginal benefits of tax savings on cost of debt and cost of financial distress, and bankruptcy and agency cost.

¹⁵ Note that cost of financial distress is ultimately borne by the equity holders as reduction in dividend. This leads equity holders to demand an additional return (i.e. premium) as a compensation for the dividend forgone.

¹⁶ Other standard assumptions of optimal capital structure theory, that are not explicitly mentioned in this text, do apply.

¹⁷ When firm’s level of borrowing increases significantly, the costs of financial distress and costs of bankruptcy are increased.

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REFERENCES

- Agrawal, A. K., & Matsa, D. A. (2013). Labor unemployment risk and corporate financing decisions. *Journal of Financial Economics*, 108(2), 449-470.
- Al Jerjawi, K. (2016). Cultural dimensions' impact on performance management in the UAE market. *Innovative Journal of Business and Management*, 5(3), 62-71.
- Alderfer, C. P. (1969). An empirical test of a new theory of human needs. *Organizational behavior and human performance*, 4(2), 142-175.
- Allen, T. D., & Rush, M. C. (1998). The effects of organizational citizenship behavior on performance judgments: a field study and a laboratory experiment. *Journal of applied psychology*, 83(2), 247.
- Bakker, A. B., & Demerouti, E. (2014). Job demands–resources theory. *Wellbeing: A complete reference guide*, 3(2), 1-28.
- Berk, J. B., Stanton, R., & Zechner, J. (2010). Human capital, bankruptcy, and capital structure. *The Journal of Finance*, 65(3), 891-926.
- Bertrand, M., & Schoar, A. (2003). Managing with style: The effect of managers on firm policies. *The Quarterly Journal of Economics*, 118(4), 1169-1208.
- Billings, R. S., Klimoski, R. J., & Breaugh, J. A. (1977). The impact of a change in technology on job characteristics: A quasi-experiment. *Administrative Science Quarterly*, 318-339.
- Brockman, P., Martin, X., & Unlu, E. (2010). Executive compensation and the maturity structure of corporate debt. *The Journal of Finance*, 65(3), 1123-1161.
- Brown, L. (2013). Keeping employees engaged: What does it take. *Tower Watson*, 1-4.
- Cain, M. D., & McKeon, S. B. (2016). CEO personal risk-taking and corporate policies. *Journal of Financial and Quantitative Analysis*, 51(1), 139-164.
- Chung, T., & Mallery, P. (1999). Social comparison, individualism-collectivism, and self-esteem in China and the United States. *Current Psychology*, 18(4), 340-352.
- Cronqvist, H., Makhija, A. K., & Yonker, S. E. (2012). Behavioral consistency in corporate finance: CEO personal and corporate leverage. *Journal of Financial Economics*, 103(1), 20-40.
- Dickson, W. J. (1973). Hawthorne experiments. In C. Heyel (ed.), *The encyclopedia of management*, 2nd ed. (pp. 298-302). New York: Van Nostrand Reinhold.
- Eroglu, O., & Piçak, M. (2011). Entrepreneurship, national culture and Turkey. *International Journal of Business and Social Science*, 2(16).
- Euwema, M. C., Wendt, H., & Van Emmerik, H. (2007). Leadership styles and group organizational citizenship behavior across cultures. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 28(8), 1035-1057.
- Fabozzi, F. J., & Peterson, P. P. (2003). *Financial management and analysis* (Vol. 132). John Wiley & Sons.
- Faccio, M., Marchica, M. T., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. *Journal of Corporate Finance*, 39, 193-209.

- Fama, E., & K.R. French. (2002). Testing trade-off and pecking order predictions about dividends and debt. *Review of Financial Studies*, 15, 1-33
- Farh, J. L., Hackett, R. D., & Liang, J. (2007). Individual-level cultural values as moderators of perceived organizational support–employee outcome relationships in China: Comparing the effects of power distance and traditionality. *Academy of Management Journal*, 50(3), 715-729.
- Folger, R. (1993). Justice, motivation, and performance beyond role requirements. *Employee Responsibilities and Rights Journal*, 6(3), 239-248
- Graham J, & Narasimhan K. (2004). Corporate survival and managerial experiences during the Great Depression. Working Paper, Duke University. Available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=489694
- Güngör, P. (2011). The relationship between reward management system and employee performance with the mediating role of motivation: A quantitative study on global banks. *Procedia-Social and Behavioral Sciences*, 24, 1510-1520.
- Haar, J. M., & Brougham, D. M. (2013). An indigenous model of career satisfaction: Exploring the role of workplace cultural wellbeing. *Social Indicators Research*, 110(3), 873-890.
- Harris, M., & Holmstrom, B. (1982). A theory of wage dynamics. *The Review of Economic Studies*, 49(3), 315-333.
- Herzberg, Frederick (1966). *Work and the Nature of Man*. Cleveland: World Publishing.
- Huppert, M. (2017, October 25). Employees share what gives them a sense of belonging at work. LinkedIn. Retrieved from <https://business.linkedin.com/talent-solutions/blog/company-culture/2017/employees-share-what-gives-them-a-sense-of-belonging-at-work>.
- Kim, D. Y., & Park, J. (2010). Cultural differences in risk: The group facilitation effect. *Judgment and Decision Making*, 5(5), 380.
- Kiruja, E. K., & Mukuuru, E. (2018). Effect of motivation on employee performance in public middle level Technical Training Institutions in Kenya. *IJAME*.
- Lawter, L., Kopelman, R. E., & Prottas, D. J. (2015). McGregor's theory X/Y and job performance: A multilevel, multi-source analysis. *Journal of Managerial Issues*, 27(1), 84-101.
- Lewellen, K. (2006). Financing decisions when managers are risk averse. *Journal of Financial Economics*, 82(3), 551-589.
- Li, Y., Zhang, G., Yang, X., & Li, J. (2015). The influence of collectivist human resource management practices on team-level identification. *The International Journal of Human Resource Management*, 26(14), 1791-1806.
- MacGregor, D. (1960). *The human side of enterprise* (Vol. 21, No. 166-171). McGraw-Hill: New York.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1991). Organizational citizenship behavior and objective productivity as determinants of managerial evaluations of salespersons' performance. *Organizational behavior and human decision processes*, 50(1), 123-150.
- MacKenzie, S. B., Podsakoff, P. M., & Fetter, R. (1993). The impact of organizational citizenship behavior on evaluations of salesperson performance. *The Journal of Marketing*, 70-80.
- Malmendier U, Tate G, & Yan J. (2010). Managerial Beliefs and Corporate Financial Policies. Working Paper, University of California, Berkeley. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.589.7573&rep=rep1&type=pdf>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50(4), 370.
- May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77(1), 11-37.
- McClellan, E., & Collins, C. J. (2011). High-commitment HR practices, employee effort, and firm performance: Investigating the effects of HR practices across employee groups within professional services firms. *Human Resource Management*, 50(3), 341-363.

- Modigliani, F., & Miller, M. H. (1958). The cost of capital, corporation finance and the theory of investment. *The American economic review*, 48(3), 261-297.
- Modigliani, F., & Miller, M. H. (1963). Corporate income taxes and the cost of capital: a correction. *The American economic review*, 53(3), 433-443.
- Moorman, R. H., & Blakely, G. L. (1995). Individualism-collectivism as an individual difference predictor of organizational citizenship behavior. *Journal of organizational behavior*, 16(2), 127-142.
- Oh, T. K. (1976). Theory Y in the people's republic of china. *California Management Review*, 19(2), 77-84.
- Omollo, P. A., & Oloko, M. A. (2015). Effect of motivation on employee performance of commercial banks in Kenya: A case study of Kenya Commercial Bank in Migori County. *International Journal of Human Resource Studies*, 5(2), 87-103.
- Payne, B. K., Brown-Iannuzzi, J. L., & Hannay, J. W. (2017). Economic inequality increases risk taking. *Proceedings of the National Academy of Sciences*, 201616453.
- Plantinga, M. (2006). Employee motivation and employee performance in child care: the effects of the introduction of market forces on employees in the Dutch child-care sector. s.n.
- Podsakoff, P. M., Ahearne, M., & MacKenzie, S. B. (1997). Organizational citizenship behavior and the quantity and quality of work group performance. *Journal of applied psychology*, 82(2), 262.
- Purcell, J. (1987). Mapping management styles in employee relations. *Journal of Management Studies*, 24(5), 533-548.
- Sánchez, V. B., & Sahuquillo, C. A. (2012). Entrepreneurial behavior: Impact of motivation factors on decision to create a new venture. *Investigaciones Europeas de Dirección y Economía de la Empresa*, 18(2), 132-138.
- Shahzadi, I., Javed, A., Pirzada, S. S., Nasreen, S., & Khanam, F. (2014). Impact of employee motivation on employee performance. *European Journal of Business and Management*, 6(23), 159-166.
- Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The journal of finance*, 19(3), 425-442.
- Singelis, T. M. (Ed.). (1998). *Teaching about culture, ethnicity, and diversity: Exercises and planned activities*. Sage
- Steensma, H. K., Marino, L., & Weaver, K. M. (2000). Attitudes toward cooperative strategies: A cross-cultural analysis of entrepreneurs. *Journal of International Business Studies*, 31(4), 591-609.
- Triandis, H. C. (1995). *Individualism and collectivism*. Boulder, CO: Westview.
- Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of personality and Social Psychology*, 54(2), 323.
- Trimpop, R. M. (1994). *The psychology of risk taking behavior* (Vol. 107). Elsevier.
- Van Dyne, L., Vandewalle, D., Kostova, T., Latham, M. E., & Cummings, L. L. (2000). Collectivism, propensity to trust and self-esteem as predictors of organizational citizenship in a non-work setting. *Journal of organizational behavior*, 21(1), 3-23.
- Walker, G. J. (2009). Culture, self-construal, and leisure motivations. *Leisure Sciences*, 31(4), 347-363.
- Walumbwa, F. O., Lawler, J. J., & Avolio, B. J. (2007). Leadership, individual differences, and work-related attitudes: A cross-culture investigation. *Applied psychology*, 56(2), 212-230.
- White, A. (2009). *From comfort zone to performance management*. White & MacLean Publishing.
- Wóźniak, E. (2018). Employee motivation phenomenon. *World Scientific News*, 111, 111-120.

