From Stepping Stones to Dead Ends:

Effects of Fixed Term Contracts on Work Effort and Wage Inequality in India

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(Version 1.0)

Abstract:

The faster growth of precarious employment vis-à-vis regular employment also has economic consequences in the sense that they immediately widen wage inequality and thus could have far reaching long term economic consequences especially for not providing quality jobs. Temporary jobs may provide a short term measures; however, in the long term they results into indecent working conditions. The problem becomes more acute when it is complemented by serious economic shocks such as pandemic that may result into long term economic losses. This paper aims to examine two interrelated questions 1) to examine the determinants and trends in rising wage inequality between two categories of workforce across different labour regulation regimes in India and 2) to study, the effects of introduction of fixed term contracts on work effort and wages. We use a unit-level data of Employment-Unemployment Survey (EUS) across 35 Indian states. Using decomposition and fixed effects models, the study argues that the wage premium for permanent contracts persists when estimated separately by age groups, education groups, gender, tenure contract security and across varied labour market regimes. Individuals with low age, low skill, and lower social strata and education, working in a highly import competitive industry and especially working in manufacturing sector receives lower wage premium. Secondly, on an average the fixed term contact workers earns INR 248 less wages and work 5 hours more on a weekly basis as compared to regular workers. The wage penalty for female workers is observed to be high despite offering an equivalent hour of work efforts. Across the firm sizes, fixed term contract workers experience adverse working conditions and pay heavy wage penalties in large size firms compared to small-size firms. Changing dynamics of industrial relation, reducing coverage of labour laws and lack of legal entitlements are exacerbating the wage gap between two types of workers. Precarity promotes neither economic efficiency nor decent work and hence is bad from both economic and normative lenses. Then, formalization of labour market is important.

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I. Introduction:

To promote flexibility, the fixed-term contracts have emerged as an effective recruitment strategy to adjust the workforce according to changes in market demand. Employers prefer workers on fixed terms due to lower adjustment costs, implying avoidance of redundancy payment at the time of dismissal. Moreover, it is also justified as a screening mechanism to retain productive labour force over the period of definite tenure. On the other hand, workers favour these jobs as a stepping stone for career mobility and transition into permanent employment with higher employment protection. In many developed countries, labour market flexibility reform has been undertaken to promote this category of employment for reducing unemployment rate and to prevent reallocation of workers from high to low productive industries (ILO, 2018). However, over the last decade, the demand for fixed term contracts has witnessed decreasing trend due to a rise in the share of part-time workers and the relocation of low-wage-low-productive industries to developing countries (ibid). To take the advantage of this opportunity, the introduction of fixed term contracts has become a key policy instrument for labour market flexibility in many emerging economies for employment generation and to stimulate export oriented industries.

Following this global trend, India too adopted this business friendly reform by allowing the employment of fixed term contracts in the most dynamic and export oriented "textile, footwear, electronics and apparel"[2] manufacturing industries in 13th October 2016 in the Industrial Employment (Standing Orders) Act, 1946. According to this, a newly created fixed-term contractual employment is entitled to the same working conditions, wages and other benefits for a fixed-term at part with regular employee in the reformed industries. It further presumes that in the absence of non-renewal of contracts, the fixed term employees will eventually get an opportunity for automatic absorption in regular employment. Therefore, it is expected that the effects of introduction of fixed term contracts will be equal in term of work effort (actual hour worked weekly) and wages (weekly in Indian Rupees (INR)) for temporary and regular workers in the reformed industries. In this context, this study aims to estimate the effects of fixed term contracts on work effort and wages in India. We employ a recently released Period Labour Force Survey's-2017-18; 2018-19 and 2019-20. (PLFS) which allow us to factor in the period of this reform through quarterly data collection[3]. This dataset allows us identifying fixed term and regular workers over 12

[2] According to Economic Survey (2017-18), the textile, footwear, electronics and apparel industry estimated at USD 108 billion. It is one of the largest contributors to India's exports with approximately 11% of total exports worth USD 41.4 billion. The industry accounts for approximately 5% of India's GDP and 14% of overall Index of Industrial Production (IIP), thereby emerging as the 2nd largest employer in the Country.

[3] The survey was conducted between Quarter I (July-September 2017), Quarter 2(October-December 2017), Quarter 3 (January-March 2018) and Quarter 4 (April-June 2018). And subsequently in the next two rounds as well.

quarters and across industries, taking into account workers and industry specific heterogeneity. Ours will be the first study to address these issues in the context of emerging economies like India. This paper is divided into two segments. The first segment will discuss the determinants of wage inequality in India. The second segment will examine the effects of introduction of fixed term contract on wages and work efforts of between regular and contract workers in India.

II. Contextualizing the debate:

The factors accounting for growing inequality in the developing world, is largely being debated and discussed among policy makers. For the sake of brevity, we divide the existing literature into three strands. Firstly, virtually all empirical studies of wage and employment inequality in developing countries consistently point to an increase in inequality due to globalization (Goldberg and Pavenik, 2007). Goldberg and Pavcnik (2007) note in their comprehensive survey of the distributional effects of globalization in developing countries, two clear trends emerge from the available data. First, the exposure of developing countries to international markets, whether in terms of measures of protection, share of trade in GDP, or foreign direct investment (FDI), etc., has increased dramatically in recent years. Second, most available measures of inequality trended upward. While causality is difficult to establish, the available evidence has "provided little support for the conventional wisdom that trade openness in developing countries would favor the least fortunate (at least in relative terms)" (Goldberg and Pavcnik 2007,pg.77). Similarly, the trade openness increases the elasticity of labour demand and thus erodes the bargaining power of labour (Rodrik 1997). Increasing trade openness in India is associated with increasing labour productivity and also wage inequality among skilled and unskilled workers in the organized manufacturing sector (Galbraith et al 2004; Dutta 2005; Banga, 2005; Das 2007). One of the major explanations put forward for this rising wage inequality is the rise in relative demand for skilled labour due to skill-biased technological change (Ramaswamy, 2008 and Das, 2012).

Secondly, Dutta (2005) analyzed the determinants of inequality for wage earners only from the NSS rounds for 1983 and 1999-2000, focusing on the sample of male wage earners in the working age group (15-65). They followed the standard Fields (2003) method of assessing the contribution of different explanatory variables for accounting for inequality among two samples –regular and casual workers. The results from this work make clear the difference between the markets for regular and casual wage earners. Human capital variables, education, geographical location and age in particular play a stronger role in the determination of the earnings of regular workers. The study also identified other important factor such as industry affiliation (contributing another quarter). By contrast, human capital factors were of much less

However, the in the final round, the survey was halted due to a nationwide lockdown in March-August-2020 and February-May-2021.

importance for casual workers (only age had any positive contribution, but at a much lower level of around 7 percent. Sarkar (2009) undertook a similar decomposition analysis of factors that contribute to earnings disparity of all wage earners (regular and casual workers taken together) for the NSS round of 2004-05.

Finally, the role of rigid labour regulation in influencing various economic outcomes is subject of ongoing and often, heated debate among economist and policymakers. To some economists, labour regulation is detrimental to economic efficiency and therefore, an impediment to growth and prosperity. In contrast, to many economists, labour regulations are prerequisite for correcting market imperfection and achieve goals of redistribution without losing economic efficiency. However, much of these studies were focused on developed countries, resulting in a comparative dearth of literature that analyzes the impact of labour regulation in transitional countries or developing countries. In the past decade or so, the debate on the role of labour market regulations within developing countries has grown considerably. Among these studies, India specific studies have grown considerably, showing a negative impact of labour regulation on employment, wage, productivity and growth. Following, the study of Fallon and Lucas (1991) that examines economic effects of amendments in Chapter VB in the Industrial Dispute Act of 1947 on the demand for regular workers in India's organised sector; a study by Besley and Burgess (2004) that codifies state wise strictness of labour regulation in India were steer enough to provide empirical basis to many prominent studies that analyzed the negative effects of labour regulation on firms' decision for the plant location and investment (Sanyal and Menon, 2005), and declining trend in youth employment in Indian retail sector (Amin, 2009). Using the same labour regulation index, Hasan et.al. (2007) shows that states with flexible labour laws (pro-employer regime) experience increases in labour demand elasticity; when, the trade liberalization is conditioned; Aghion et.al. (2008) examines the potential negative impact of License Raj on employment, firm entry and output levels in both flexible and rigid labour regulation states. Labour regulation is subject to employment threshold criteria and therefore, recent studies analyses the effects of labour regulation as constructed by the study of Besley and Burgess (2004) on firms' response to labour demand conditioned on threshold effects of the Industrial Dispute Act of 1947 (Hasan and Jandoc, 2012; Ramaswamy; 2013). The broader conclusions that have emerged from these studies are corroborated with the much-lauded opinion of the government on labour laws; therefore, this topic deserves serious empirical scrutiny.

Existing empirical research based on the theory of wage differentials argues that workers having fixed term contracts may not necessarily prefer regular contracts due to wage premium to compensate non-monetary damages (Booth, Francesconi, and Frank 2002). Country specific studies observes that fixed term employment contracts with non-monetary disadvantages are likely to experience less participation in the skill training programs (Lisi and Malo, 2017); lower level of job satisfaction and lack of active participation (Campbell et.al., 2007). Studies analyzing the behavioral response of fixed term workers observes less incidence of absenteeism and higher work efforts compared to regular workers (Bossler and Grunau, 2019; Riphahn, 2004). To date, studies that have addressed the consequences of fixed term contracts are largely from developed countries where the compliance with labour laws are perfect (Ichino

and Riphahn, 2001). Hence, the issue of fixed term contracts warrants empirical examination when compliance with labour laws is imperfect and the enforcement mechanism is weak, such as in the context of India.

III. Wage Inequality between temporary and regular workers:

Rise in wage inequality has been a matter of serious policy concern since the beginning of 1990‟s. During that time it was argued that through removing barriers to trade, factor mobility and entry of new players and encouraging market completion, the Indian economy would experience higher economic growth and development. Along with this line, it was also believed that the global competition would encourage free mobility of factors of production such as labour and capital, so that the market will produce efficient outcome. In the context of labour market, wage differences in among different type of workers performing similar tasks under the same

working conditions in different jurisdiction would disappear and income levels will converge. Though, theoretically it is well argued, but indeed in reality it has resulted into more harm than ever.

Earlier studies have identified macroeconomic factors such as trade openness as a main factor in explaining increasing wage inequality in Indian economy. Increasing trade openness in India is associated with increasinglabour productivity and also wage inequality among skilledand unskilled workers in the organised manufacturing sector(Galbraith et al 2004; Dutta 2005; Das 2007). One of the majorexplanations put forward for this rising wage inequality is therise in relative demand for skilled labour due to skill-biasedtechnological change as well as eroding the bargaining power of workers (Rodrik, 1997).

Sen (2008) uses industry level data fromAnnual Survey of Industries (ASI) for the period 1973 to 1997 to find that tradeliberalization triggers the increase in wage inequality. He suggests that the decline inprotection mostly for the unskilled labor-intensive industries leads to a relative fall inthe economy-wide return to unskilled labor as compared to skilled labor. Furthermore, the study finds that a negative relationship between the degree of protection, which ismeasured as the effective rate of protection and import penetration ratio, and wageinequality at the industry level suggesting that trade-induced technological progressleads to an increase in wage inequality within industries. Moreover, Hashim and Banga(2009) use the dynamic industry panel data estimations (GMM) for 58 manufacturingindustries for the period from 1998 to 2004 to find that trade liberalization leads to anincrease in wage inequality between skilled and unskilled labor. In contrast to thesestudies, Kumar and Mishra (2005) use individual level data collected by the IndianNational Sample Survey Organization (NSSO) to find that trade liberalization leads to adecrease in wage inequalities. They evaluate the impact of the 1991 trade liberalizationon the

industry wage structure and find that the reduction in trade protection widensdifferences in wages across industries for similar workers in terms of observablecharacteristics over time. As different industries employ different proportion of skilledworkers, changes in wages across industries translate into changes in relative incomesof skilled and unskilled workers. According to them, tariff reductions are relativelylarge in sectors with higher proportion of unskilled workers and these sectorsexperience an increase in wages, which implies that the unskilled workers experience anincreasing wage relative to skilled workers. The results of this study are consistent with former studies that use plant level data from ASI.

Contrary to earlier approaches on liberalization –wage inequality relationship by aforesaid studies, a study by Mehta and Hasan (2012) argued that labour reallocations and wage shifts attributable to liberalization account for at most 29 per cent of the increased inequality between 1993 and 2004, and that effects of service sector reforms are much larger than those of trade liberalization. They further argued that the increase wage inequality is due to changes in industry wages and skill premiums.

Glinskaya and Lokshin (2005) investigated wage differentials between the public and private sectors in India, and found, by applying their own methodologies that the public sector premium ranges between 62% and 102% overthe private formal sector using employment and unemployment surveys-1993-94 and 1999-2000. Galbraith et al (2004) estimated Theil indices of pay inequality, in the registered manufacturing sector in India covering the period 1979 to 1997 and observed arising trend in pay inequality among workers within and between this sectorduring the post-liberalisation period. The study argues that this increase is drivenprimarily by increases in inequality between industry groupsrather than by regional inequality. Acharyya andMarjit (2000) using data on minimum daily wages for the lowest paid unskilled workers in the organized sector for the periods 1985-86 and 1993-94, illustrated the widening gap between the minimumand maximum wage during this period.

Recently, a study by Das (2008) have examined different dimensions of wageinequality as observed within and between different occupationalgroups, men and women workers in rural and urbanareas by taking sectoral divisions in India after one and a halfdecade of economic reforms. Using the decomposition method, the study argue that a significant part of wage inequality as observed in India is accounted for by inequality "between" groups rather than inequality "within" group for every type of working people because of significant wage differences between sectors. The study further argues that the effects of education, technical skill and experiences on wage are different across sectors, and this is, probably, why wage inequality persists among workers of a roughly homogeneous type between sectors.

Notwithstanding, this study has used the dichotomous formal/informal framework and calculated the wage inequality between all types of workers. Departing from earlier approaches, a study Das (2008) attributes wage inequality increases due to industry wage differences and due to different types of groups, which corroborate with the major findings of Mehta and Hasan (2012).

Das (2012) has examined wage inequalities using information on 96,162 persons working for wages collected for the 61st Round of NSSO 2004-05. He has analyzed wage inequality by nature of enterprise

(informal, private sector, public sector), geography (rural and urban) and gender. He finds that while workers in the informal sector earn much less than that in the formal sector (adopting enterprise definition given by NCEUS 2005), the intra-sector wage inequality analyses reveal that inequality was higher in the private sector as compared to that in the public sector and even informal sector. This is not surprising because of the casual nature of work

mostly prevalent in the informal sector. Wage differentials are higher in rural as compared to urban and among women as compared to men. Save for gender effects, wage inequality could be explained (by decomposition analyses) more by "between" groups rather than "within" groups or sectors. Wage inequality in their regression models is explained by education, experience and technical skills and they apply with greater force in the private sector than in others. However, it also "infers" econometrically diminishing returns to human capital in wage determination process, which is surprising given the institutional protections that exist in the private formal sector (see Das 2012 for more technical details).
Mazumdar et al (2017, b) has analyzed the NSSO data over the post-reform period, i.e., 1993-94 to 2011-12 and found that while the positive real wage growth slipped especially for regular workers in the rural areas and in general during 1993-2004 during 2004-2011 (to them second phase of post-reform period) the wages of casual workers increased at a faster rate in absolute numbers (hence as growth rates also) as compared with that regular worker. They attribute to the statistical possibility (hence limitation of NSSO data) of rising proportion of contract workers (most of them are classified as precarious workers and are as worse off as casual workers in the organized sector) being counted as part of regular workers in the NSSO data base apart from positive wage effects arising out of MGNREG schemes in the rural areas (see p.59). The most significant part of the wage inequality story as per NSSO data during 2004-2011 is the radical reduction in the wage equity between regular and casual workers over the NSSO sounds and this is attributed though with caution (of more research needed) to emergence and growth of prosperous regions. The authors speculate the reasons for this as being rising incidence public employment programmed in the rural areas, shift of labour to urban areas and equitable growth of new urban centers (Ibid.). While the economic impact of MGNREG schemes has been widely

endorsed for the wage and employment outcomes in rural labour market (see for e.g. Ranganathan et al 2017), the rural-urban shift and the decentralized growth in urban areas being supportive of new urban centers could be contested – for example, the industrial and even violent conflicts in emerging industrial areas like Gurgaon, Manesar and other areas have been reflective of rising economic inequities in these regions (see ShyamSundar 2015; Jaganathan 2014). Within the regular workers labour market, the wage distribution was more or less equitable in the pre-reform period, i..e. 1983-94 but inequality manifested in the two phases of post-reform period, 1993-2004 and 2004-2012 in the form of a „U" shaped curve (dipping trend on one lower decile and rising trend on the upper decile). The inequality could be weakly due to rise so- called skilled employees in the information technology (IT) and IT-enabled-services and

more possibly due to broad "dualism" model, i.e., dualism in the manufacturing sector ("bi-modal" distribution of employment in manufacturing sector with differing and contrasting labour productivities) and more powerfully in the service sector (low-income services versus the high-income services, see especially Mazumdar et al 2017).

They considered the determinants of earnings (viz. informality, education, days worked, etc.) within a multiple regression framework for the wage workers for three cycles of NSSO, 199- 2000 to 2011-2012. They toy with two definitions of informality, viz. type of enterprise (enterprise definition) and access to social security (worker definition) and find that informality was greater when measured by the latter and this disparity has huge implications for inequality as well. Wage differential is moderated when enterprise definition was used while it bloated with the worker definition (p.63). On the other hand, education variable played contrasting role to the aforementioned one. Education obviously plays a less significant role with respect to worker categories (as contract workers are less likely to have education premium as compared with that observed between tenured workers in small firms and large firms. But it is interesting note the differential results obtained by the use of two statistical formulations of informality. The impressive and stronger results by usage of worker definition of informality drives home the fact that precarity is on the rise even in the formal establishments (see 2017, p.66).

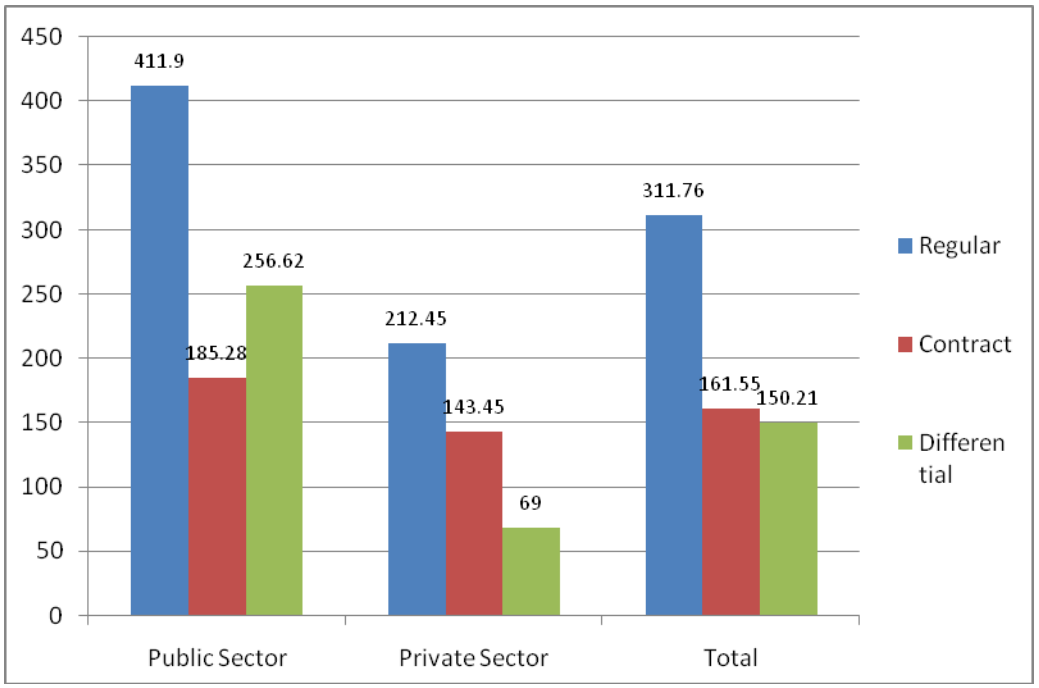
Abraham (Undated) has used NSSO data from 1999-2000 to 2011-2012 to study inequalities between various categories of informal workers in India. Since 1999-2000 the NSSO albeit inadequately covered the social security and other aspects of labour market entitlements in their household surveys. She finds that in 2011-12, three-fourths of workers did not have access to provident fund (a form of limited social security), a little more than two-thirds had no paid leave, about four-fifths did not have access to healthcare and maternity benefits and most worryingly a little more than three-fourths had no written job contract.

IV. Wage Inequalities between Contract and Regular Workers: Micro-level Studies

The micro-level studies and anecdotes offer a more radical and even worrying picture of wage equalities between the contract and regular workers. The advantage of micro-level studies over the quantitative studies using secondary data is that vital information on the terms and conditions of employment faced by contract workers are directly secured and there is no need to make convenient assumptions as in the case of quantitative studies – e.g., Sen et al (2010) find a high correlation between minimum wages issued by the states and the wages of contract workers which flies in the face of empirical realities. Rajeev (2006) finds in her survey of contract workers in Karnataka that a majority of contract workers earn less than INR 2,000 and some less than INR 1,000 (less than the minimum wages) while the regular workers earn at least INR 6,000. Bhandari (2006) uses data collected from 551 individuals working in the organized manufacturing sector in West Bengal, including Uttar Pradesh, Haryana and Delhi during 2004-05. They found "a substantial wage gap exists between permanent and contract workers where contract worker earns 45.5% less than their counterpart" (2006, p.15). V.V. Geri National Labour Institute conducted a survey

and collected wage information for regular and contract workers performing same work and wage differentials for public and private sectors are given in the figure below.

Figure 1: Wage differential between Regular and Contract workers



Source: Trade Union Record, AITUC, December 2012

Though performing same work, in the private sector contract workers‟ wage was about 68% of the wages of the regular workers while it was lower at about 45% in the public sector and overall, we find that the contract workers earn just over half of the wages earned by regular workers. Arguably, pay differential in the public sector is higher because of highly bargained wages for regular workers and exclusion of contract workers from wage bargaining – though in recent years the public sector trade unions have sought to include contract workers‟ wage interests in the collective negotiations (Shyamsunder 2011). Contract workers suffer from other disabilities also. The fundamental disability is the lack of employment security. It may be argued that because contract workers are cheaper as compared to permanent workers and because they could be dispensed with easily, the demand for contract workers is high resulting in some employment as opposed to their unemployment. As a result of these two, their voice security has also been affected significantly. Historically, the hiatus between the permanent and contract and other flexi-forms of workers has existed which prevented the mainstream trade unions from organizing these workers or including them in the organizations of permanent workers (Roye 2007). Over the post-reform period, as the employment security of the permanent workers began to be threatened, trade union commentators called for “solidarity” between the two segments of workers (Roye 2007) and the mainstream trade unions have paid organizational attention over them (see Shyamsunder 2011, 2015 for details on them). However, in most cases permanent workers‟ unions do not admit contract workers into their trade unions though they mostly

represent the demands of the contract workers (see Shyamsunder 2011; Sampath 2016; also see ex-High Court Judge, Hariparanthaman‟s observations on this issue at http://tnlabour.in/unorganised-sector/5104 , accessed 13 July 2017). Hence it becomes a kind of vicious cycle.

Building upon those studies, we argue that even within the same group of employment category, workers receive unequal wages due to their different types of tenure security, industry structures, employment status that gives more bargaining powers to few and none to majority of workforces, degrees of competition, social identity and finally, differential impact of labour market institutions. A study by Sapkal and ShyamSundar (2017), has uncovered the existence of substantial heterogeneity within the formal sector, while revealing the growth of substantial precarity even amongst those workers who are enumerated as regular workers by NSSO. Using their framework, we further add to the debate by examining the main features of the wage differences between permanent and temporary contracts and what sources are driving these differences, including the role of labour market institutions.

V. Some Empirics and Data Measurement:

In order to analyze the effects of labour regulations on the measures of employment and emolument inequality, this paper draws on the theoretical and empirical literature measuring the labour regulation and inequality. This paper exploits the labour regulation index, as constructed by Besley and Burgess (2004). The constructed measures on labour regulation ends in 1992; however, in recent studies it has been extended up to 2008 (Sapkal, 2015). This index is coded as – '1' for pro-worker, '-1' for pro-employer and '0' for neutral.

For the purpose of comparative analysis, the present study divides Indian states into 'rigid' and 'flexible' labour regulation states[4]. To measure inequality, this paper exploits the Theil Inequality Index for the manufacturing sector of India on employment and emolument. The index is constructed for each year from 1980-2014 using the Annual Survey of Industries (for two digit industry code), and it covers 21 states and 25 sub-sector of manufacturing sector.

The Theil inequality index is well known and is characterized by its property of additive decomposability. This index allows us to measure total inequality as well as inequality within and across sub-groups (such as states and two digit sub-sectors). Furthermore, the Theil index has less stringent data requirements and is particularly useful when only group data are available rather than individual data or when individual data are subject to random

[4] See the appendix section of Hasan et.al. 2007 for complete classification of Indian states between flexible and rigid labour regulation environment.

measurement error[5]. The Theil index enables us to explore in a consistent manner the evolution of inequality over different levels of aggregation. The Theil inequality index can be expressed as:

$$T = \sum_{j=1}^{m} \sum_{i=1}^{n} \left(\frac{P_{i,j}}{P}\right)\left(\frac{\bar{Y}_{i,j}}{P}\right) \log \left(\frac{\bar{Y}_{i,j}}{P}\right) \ldots\ldots\ldots (1)$$

Here n equals to 25 sub-sectors of manufacturing sectors and m equals to 21 states and union territories for the years 1980-2014. $\bar{Y}_{i,j}$ is the average income of the ith sector of jth state/union territories, $\bar{Y}_{i,j} = \left(\frac{\bar{Y}_{i,j}}{P_{i,j}}\right).P_{i,j}$ is the number of individuals employed in the ith sector of j th state/union territories and $Y_{i,j}$ is the total income earned by them. $\bar{Y}$ is the average income of the manufacturing sector of all state/union-territories, $\bar{Y} = \frac{Y}{P}.P$ is the number of individuals employed in the manufacturing sector of all the state/union territories and Y is the income earned by them, $T = \sum_{J=1}^{m} \sum_{i=1}^{n} P_{i,j}$ & $Y = \sum_{J=1}^{m} \sum_{i=1}^{n} Y_{i,j}.\frac{P_{i,j}}{P}$ is the population weight.

The between state component of Theil Inequality index is the weighted summation of the logarithm of the ratio of the average income of each state/union territories to the average income of all the states and union territories. It is expressed as:

$$T^B = \sum_{j=1}^{m} \left(\frac{P_j}{P}\right)\left(\frac{\bar{Y}_j}{\bar{Y}}\right)\log \left(\frac{\bar{Y}_j}{\bar{Y}}\right) \ldots\ldots\ldots\ldots (2)$$

The within-state component of Theil inequality index is the weighted average of the between sector within state Theil inequality index for each state/union territories, where the weights are the income weights. This can be expressed as:

$$T^W = \sum_{j=1}^{m} \left(\frac{Y_j}{Y}\right) T_j' \ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

The overall Theil Inequality measure can be completely and perfectly decomposed into between state componentT^B, and within state component T^W. Thus, we can write

$$T = T^B + T^W \ldots\ldots (4)$$

If every component has exactly the same employment and emolument level, T will be zero; this represents perfect equality and is the minimum value of Theil's Index. If one individual has all

[5] Conceição and Ferreira (2000) provide comprehensive overview of application of Theil Index in Development Economics and also highlights some of its limitation in interpreting the indices.

of the employment and emolument (i.e. highly skewered distribution), T will equal ln(n); this is the highest level of inequality and is the maximum value of Theil's index.

VI. Results:

Table 1 present, the employment and emolument inequality indices for the overall inequality, within states-subgroup components and between states-subgroup components for the period between 1980-2014. Column (1) in Table 1 shows that the point estimates on the overall inequality in employment and emoluments falls during 1980 to 1989, but then rises sharply during 1990 to 2008. If we carefully look at the trend, the magnitude of point estimates raises drastically after 1993 onwards on an average at 0.02 point basis; whereas, it rises on an average at 0.01 point basis between the years 1988-1992. This trend is consistent with a larger dynamics of Indian organised labour market where the employment as a whole, which has experienced a steady growth of around 2 percent from 1961 to 1990 (when the growth of GDP was only around 3.5 per cent), declined sharply to 1.5 percent during 1990-92 and further to around 1 percent during 1993-2000. The phenomenon is also referred as *"the period of jobless growth"*, accompanied with the growth in informal sector, contractualisation of organised sector and technological change (Sharma, 2006). From 2000 onwards, the overall inequality index has raised sharply owing divergent performame of manufacturing sector between all states and industries. Column (2) report that the between state component inequality index, moderately decreased from 1980 to1986, but again it increased between the years 1987-2008. It is interesting to note that the trend is stagnant for the periods 1985-86, 1987-88, 1989-1991, 1992-93,1998-99 and 2003-2004. We do not have a ready obvious explanation for this stagnation; the result could be driven by many state level factors such the disinvestment policies of the central government or the VRS programmes that took almost two to three years on an average to relocate/adjust the workforce at a firm level (Shyam Sunder, 2011). In column (3) we can see that index of inequality within state component across sub-industries shows a moderate decline between the periods 1980- 1989; then it rises substantially from 1990-2014. We conjecture that the growing incidence of overall inequality is largely resulted from the between sector and states inequality that could be driven by low productivity, differential capacities of states to stimulate manufacturing sectors, shortages of inputs and less attention to research and development (Dougherty, 2009 and Nataraj, 2011).

Table 1: Inequality Indices (Theil Index) on Employment and Emoluments (across years)

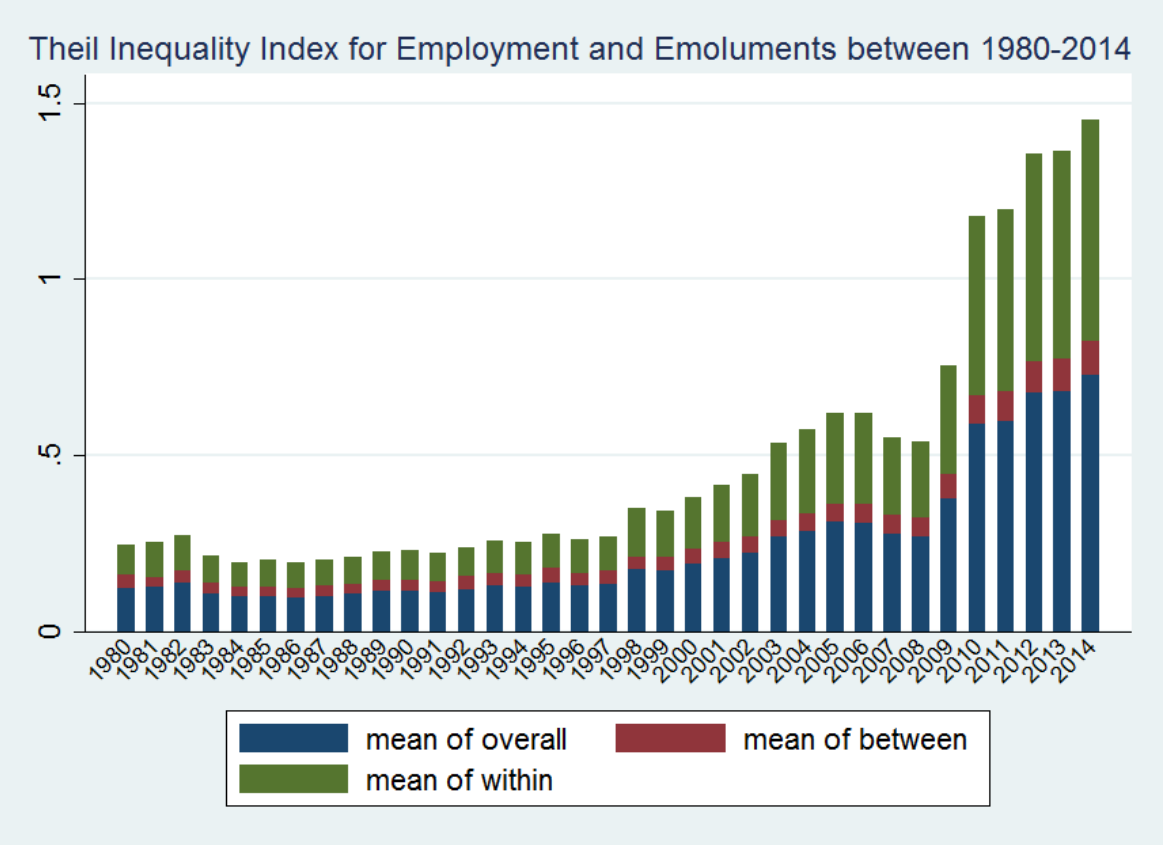
Years	Overall	Between	Within	Change in Bt/Wt
	(1)	(2)	(3)	(4)
1980	0.123	0.036	0.087	0.4138
1981	0.126	0.028	0.098	0.2857
1982	0.136	0.038	0.098	0.3878
1983	0.108	0.028	0.08	0.35
1984	0.098	0.027	0.071	0.3803
1985	0.101	0.025	0.076	0.3289
1986	0.097	0.025	0.072	0.3472
1987	0.101	0.028	0.073	0.3836
1988	0.105	0.028	0.077	0.3636
1989	0.114	0.031	0.083	0.3735
1990	0.116	0.031	0.085	0.3647
1991	0.111	0.031	0.08	0.3875
1992	0.119	0.036	0.083	0.4337
1993	0.129	0.036	0.093	0.3871
1994	0.126	0.034	0.092	0.3696
1995	0.138	0.041	0.097	0.4227
1996	0.13	0.035	0.095	0.3684
1997	0.135	0.036	0.099	0.3636
1998	0.1746	0.038	0.1366	0.2782
1999	0.1714	0.038	0.1334	0.2849
2000	0.1906	0.042	0.1486	0.2826
2001	0.2085	0.044	0.1645	0.2675
2002	0.2231	0.047	0.1761	0.2669
2003	0.2669	0.049	0.2179	0.2248
2004	0.286	0.049	0.237	0.2068
2005	0.3103	0.05	0.2603	0.1921
2006	0.3092	0.051	0.2582	0.1975
2007	0.2755	0.054	0.2215	0.2438
2008	0.2685	0.056	0.2125	0.2635
2009	0.3783	0.068	0.3103	0.219143
2010	0.5893	0.082	0.5073	0.16164
2011	0.5982	0.085	0.5132	0.165627
2012	0.6782	0.087	0.5912	0.147158
2013	0.6814	0.094	0.5874	0.160027
2014	0.7268	0.098	0.6288	0.155852

Source: Author's own calculation based on ASI data.

In figure 2 we can see that the post reform period witnessed a discernible impact on redoubling employment and emolument inequality in India. The magnitude of point estimates on- between and within states components are larger for the post reform period compare to the pre-reform period. It is important to note that inequality indices on within state and between sub-industries arise largely than between states component. As expected, this trend is consistent with the growing body of literature that concludes- in

the post reform period, the gap between economic performances among Indian states have a divergent trend (Chakravorty and Lall, 2007).

Figure 2 Theil Index Measure on Employment and Emoluments between 1980-2014.



Discussion from the previous table confirms that since the beginning of reform period inequality in employment and emolument has increased, and it is still growing. Table 1 provides the aggregate trend from which it is difficult to isolate state wise trends or factors that have been influencing the inequality measure. In table 2, present the decomposed estimate of Theil index across Indian states for the period 1980-2014. The point estimates reported in table 2 are important to answer - whether promoting flexible industrial relation climate is conducive for economic growth and reducing inequality as proclaimed by the present government. Column (1) in table 2 indicate that those states who were conventionally considered as flexible states namely Andhra Pradesh, Gujarat, Tamil Nadu, Rajasthan, Uttar Pradesh and Karnataka has highest point estimate of overall employment inequality compared to other inflexible or neutral states. The overall index on the point estimates for flexible states are high, because theses states has large variation in the within states and between sub-industry component. Therefore, one can infer that, sheer flexible labour regimes do not necessarily ensure a reduction in inequality and thus, there is no certainty that reform

to labour regulation alone would promote employment growth and competition. It is important to bear in the mind that, the main motive of this inference is not to blame the new government strategy for reform labour laws, but rather it is a cautionary signal to those in the government who believe that the only massive pro-employer reforms to the present labour laws would solve all India's problem.

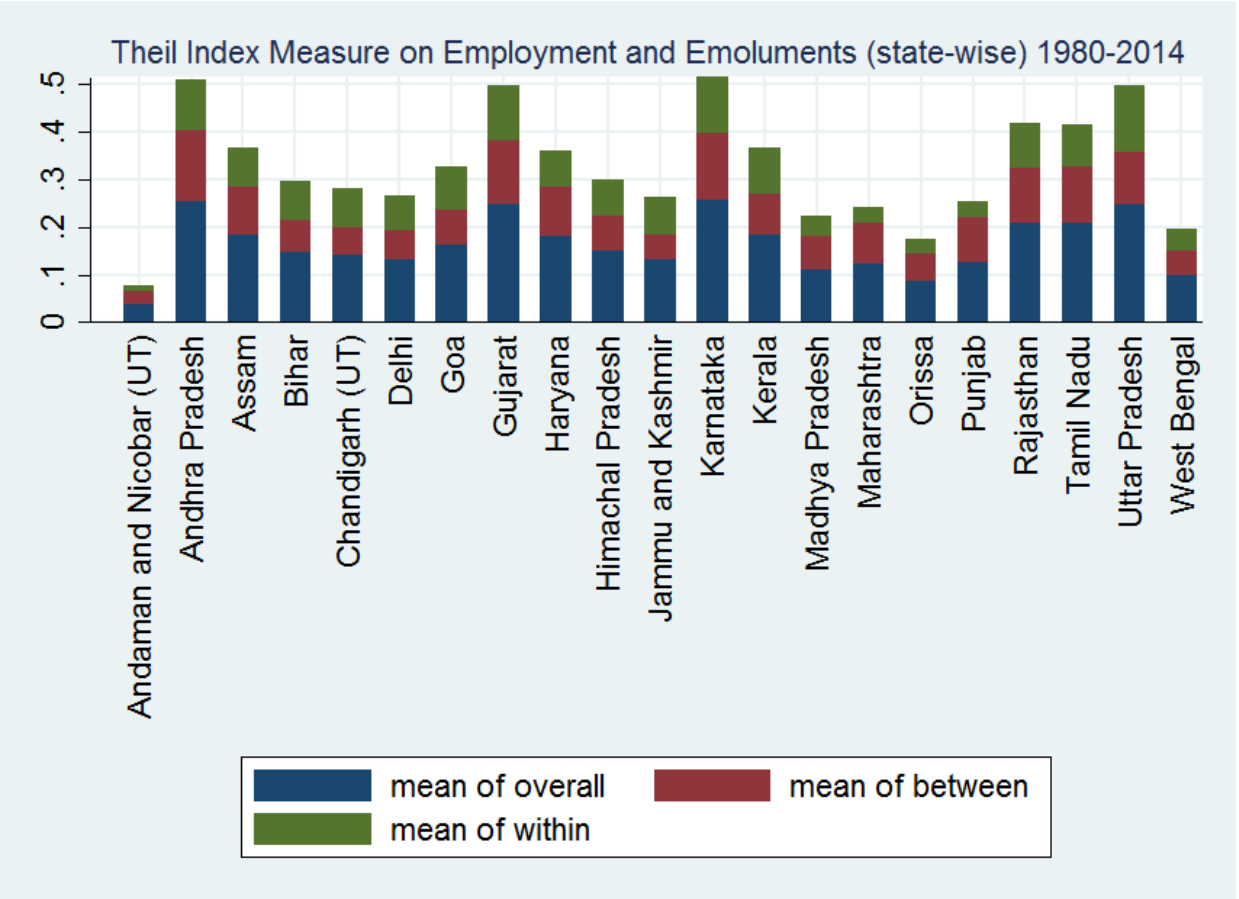
Table 2: Theil Inequality Index on Employment and Emoluments (across Indian states)

states	**Overall 1980-2014**	**Between 1980-2014**	**Within 1980-2014**
	(1)	(2)	(3)
Andaman and Nicobar (UT)	0.039	0.025	0.014
Andhra Pradesh	0.255	0.149	0.106
Assam	0.183	0.103	0.08
Bihar	0.148	0.067	0.081
Chandigarh (UT)	0.141	0.059	0.082
Delhi	0.133	0.059	0.073
Goa	0.163	0.074	0.089
Haryana	0.18	0.103	0.077
Himachal Pradesh	0.15	0.073	0.078
Jammu and Kashmir	0.132	0.053	0.079
Karnataka	0.258	0.138	0.121
Kerala	0.184	0.085	0.099
Madhya Pradesh	0.111	0.071	0.041
Maharashtra	0.122	0.086	0.035
Orissa	0.087	0.058	0.029
Punjab	0.127	0.093	0.034
Rajasthan	0.209	0.116	0.093
Tamil Nadu	0.207	0.121	0.086
Uttar Pradesh	0.249	0.11	0.139
West Bengal	0.098	0.053	0.045
Gujarat	0.248	0.133	0.115

Source: Author's own calculation based on ASI data.

Figure 3 provides a graphical representation of inequality indices of table 2. The state of West Bengal and Orissa has lowest point estimate of inequality measures; whereas the highest point estimates are for the state of Gujarat, Karnataka and Andhra Pradesh.

Figure 3: Theil Index Measure on Employment and Emoluments (state-wise)


Theil Index Measure on Employment and Emoluments (state-wise) 1980-2014
0
.1
.2
.3
.4
.5
Andaman and Nicobar (UT)
Andhra Pradesh
Assam
Bihar
Chandigarh (UT)
Delhi
Goa
Gujarat
Haryana
Himachal Pradesh
Jammu and Kashmir
Karnataka
Kerala
Madhya Pradesh
Maharashtra
Orissa
Punjab
Rajasthan
Tamil Nadu
Uttar Pradesh
West Bengal
mean of overall
mean of between
mean of within

VII. Relationship between labour regulation and inequality measures

We turn, finally, to the links between labour regulation and employment and emolument inequality. A substantial literature analyzing Indian industrial climate argues that rigidity in the labour regulation is the bane of worsening India's economic performance. Even, the present government believes that reforming labour laws could be a recipe for higher economic growth that in turn would reduces the inequality. To test formally the presence of statistical significant association between changes in inequality measures and labour regulation changes, the paper examine the regression estimates of following two empirical specifications:

$$\Delta Inequality_{1980\text{-}2014} = \alpha + \beta(\Delta labour\ regulation_{1980\text{-}2014}) + \varepsilon \quad (5)$$

$$\Delta Inequality_{1980\text{-}2014} = \alpha + \beta(Flexible\ States) + \varepsilon \quad (6)$$

The dependent variable in equation (3) is changes in between the sub-industries level and within states inequality index disaggregated at the state level for the period between 1980-2014. It is a balanced panel of 21 Indian states for the period of 1980-2014. Therefore the total number of observation is 735. And, the independent variable is changes in labour regulation constructed by Besley and Burgess(2004) for the period between 1980-2014 at the state level. This index is weighted by state and sector specific employment and emoluments shares. In equation (4) the dependent variable is changes in within states and between sub-industry components aggregated at the level of states. We use independent variable flexible states as a dummy variable; it takes value of 1 if states belong to the conventional flexible category or 0 otherwise.

Table 3 Estimation Results:

	$\Delta Inequality_{1980\text{-}2014}$	$\Delta Inequality_{1980\text{-}2014}$
	(1)	(2)
$\Delta labour\ regulation_{1980\text{-}2014}$	-0.030***	
	(0.005)	
Flexible states		0.057***
		(0.009)
Constants	0.137***	0.070***
	(0.006)	(0.005)
Number of observations	735	210
R^2	0.18	0.63

Table 3 presents the results from ordinary least squares (OLS) estimation of the specifications above. The OLS estimates of the parameter $\boldsymbol{\beta}$ measuring the association between changes inequality and labour regulation changes are statistically significantly. In column (1), we can see that changes in labour regulation over the years reduce employment and emolument inequality for the period. The effect is driven by the positive change in labour regulation i.e the change in direction of pro-workers (according to the labour regulation index it take the value of '1'). Columns (2) present the estimation result of changes in inequality measures in six reform flexible states. The coefficient of interest (β) indicate positive effects on inequality, implying in pro-employers states our inequality measures on within states and between sub-components increased between the period of 1980-2014. The finding indicates statistically significant association between labour regulation and inequality. Moreover it is robust to many changes to the econometric specification which have considered above[6].

VIII. Are Temporary Jobs stepping stone for Regular Jobs?

To address this question, we draw our analysis on PLFS which is a nationally representative database on employment and unemployment. The total sample size is 433,399 observations consisting samples of 246,809 (57 percent) and 186,530 (43 percent) from rural and urban areas respectively. We restrict our samples to urban areas only since all establishments in the reformed industries are located in urban areas. Our analysis is 32,261 workers, consists of 11,263(33 percent) fixed term contact and 20,998 (67 percent) regular workers. PLFS dataset allows us to control for individual levels covariates such as age, education, technical skills and firm-level characteristics- the size of the firm. We have included the industry specific control variable -Gross Value Added (GVA) to take into account the industry specific production trends. Our key variables of interest measures the actual hours of work and wages on a weekly basis in the wage-salaried employment with different levels of contract tenure. If the tenure security is more than 3 years then it is referred as a regular worker if it is covered by all social security measures; otherwise it is considered as a fixed-term workers if the tenure security is more than one and less than 3 years. We have dropped the observations if the workers report - no written contract and self-employed. Our empirical specification is as follows.

[6] Results can be obtained upon request from the Author

〖Outcome〗_(i,s,t)=α_i+α_s+α_t+β_1*〖(FTC x Treat)〗_(i,s,t)+β_2 〖*X〗_(i,s)+ϵ_(i,s)… (6)

Our empirical model control for macro shocks with industry (α_i), state (α_s), and for time-invariant state-industry variation with the quarter-fixed effects (α_t). The coefficient of interest β_1*〖(FTC x Treat)〗_(i,s,t) estimate the average effects of fixed term contracts on work effort and wages. The covariate vector (β_2*X_(i,s)) controls characteristics (age, general education and technical education) that are important in governing the relationship between our dependent and independent variables. To provide heterogeneous results, we interact the coefficient β_1*〖(FTC x Treat)〗_(i,s,t) with the dummy variables for the female fixed term workers and the size of the establishments (Size1 if the establishment has < 20 workers and Size2 if the establishment has > 20 workers). Table 1 presents the descriptive statistics of all relevant variables used in this study. The average weekly wages earned by workers in the wage-salary category are 2,338 (INR) and actual hours worked in a given is 55 hours which is higher than the mandatory 48 working hours limit prescribed by Factory Act, 1948. The average age of a worker is 37 years. Our sample workers have completed secondary schooling i.e. 8 years of general education and have 1 year of technical education qualification. On an average 18 workers works in a firm which has less than 20 workers and 35 workers that has more than 20 workers. Smaller firms tend to remain smalls to circumvent the mandatory factory regulations under the Industrial Dispute Act, 1947. The industry-level average gross value addition is 481 (in '000 INR) in our sample.

IX. Empirical Analysis:

We expect that the effects of reform will be equal in term of work effort and wages between fixed term contract and regular workers; since the amended labour law aims to bring in parity in the working conditions and legal entitlements. Table 2 reports the estimated regression results . At the aggregate level, it is observed that in Col (1) workers with fixed term contracts in the reformed industries works on an average 5 hours more in a week than their counterparts. Higher working hours do not commensurate with equal pay for fixed term workers as they earn 248 (INR) less wages compared to regular workers (Col. 2). Age is considered as a proxy for experience. At a younger age, the fixed term workers work higher but as they get older the effect turns out to be negative and the difference between actual works worked almost become zero between both types of workers. With respect to wages, a younger fixed term contract

worker receives on an average 7 percent higher wages and with increasing age, their wages decline by 25 percent. The reformed industry is highly export intensive and skill-based with a higher demand for workers with a better technical education. Our estimated coefficient on general education is negative; however, it shows a positive effect when the workers possess technical qualification. Differences in wages and work efforts may also be driven by industry-specific production trends. While controlling for GVA, the results show that the higher production intensity is adding pressure on the works schedule for greater efforts, but it does not offer higher wages to fixed term contract workers. This implies that the revenue derived from higher production and export do not percolate to workers, resulting in wage inequality at the firm level. In this case, regular workers enjoy better wage due to collective bargaining and employment protection, but the fixed workers continue to receive lower wages with higher work efforts and do not have access to collective bargaining for equal wages. A female labour force participation is abysmally low in India and lowest among many developing countries. The effect of this reform intends to be gender neutral. Col (3) and (4) report that female workers with fixed term contract works on an average 5 hours more and earn 318 (INR) less wages relative to their counterpart in regular employment. As compared with the aggregate level, the wage penalty for female workers is high despite offering an equivalent hour of work efforts. This indicate the persistence of gender discrimination in terms of lower wages and higher work intensity that further increases economic vulnerabilities in the reformed industries. Younger female workers are more likely to work longer hours than older female workers without higher wages. The effects of the wage penalty are higher for younger than older female workers. Negative returns on education act as an entry barrier result in gender disparity in labour markets which forces female workers to accept low-wage- low-skill jobs. High productions or exports do not show any encouraging effects for female workers in the reformed industries. The application of Indian labour laws is defined by the size of a firm. Due to lack of information on the transition of workers from fixed term contacts to regular workers, we use the size of a firm as reported in the PLFS as a proxy to estimate whether larger firms treat fixed term workers equal as relative to smaller firms. Almost all labour laws are applicable to firms if the employment threshold size is >20. Across the firm sizes, fixed term workers work approximately 5 hours more in the large size firms but they work merely additional 1 hours in small size firms on a weekly basis (Col.5). Wage disparity is also observed across firm sizes. Col.6. shows that fixed term contract workers receive 306 (INR) and 74(INR) reduced wages in the large and small size firms respectively. Less difference in actual hours worked and wages between large and smaller firms might be due to labour-intensive production process in smaller

firms which has workers with equivalent levels of skills as compared to large size firms which are driven by capital intensive production technology. A younger cohort exert high work efforts with unequal earnings. It is observed that returns to education are negative for general education and positive for technical education. Finally, the higher production trend leads to higher work efforts but reduced wages. Overall, we argue that the reform has resulted in unintended consequences for fixed term contract workers.

Table 4: Descriptive Statistics

Variables	Observations	Mean	Std. Dev.
Wages (Weekly in INR)	32,261	2338	4767.045
Hours Worked (Weekly)	32,261	55	11.729
Age	32,261	37	26.688
General Education (Gen_Edu)	32,261	8	4.483
Technical (Tech_Edu)	32,261	1	2.469
Firm Size1	32,261	18	7.276
Firm Size2	32,261	35	21.895
GVA (in '000)	32,261	481	250.021

Data source: Periodic Labour Force Survey (2017-18).

Table 5. Effects of Fixed Term Contracts on Actual Hours Worked and Wages

	Aggregate		Female Workers		Firm Size	
	Hours Worked (Weekly) (1)	Wages (Weekly) (2)	Hours Worked (Weekly) (3)	Wages (Weekly) (4)	Hours Worked (Weekly) (5)	Wages (Weekly) (6)
FTC x Treat	5.057***	-247.857***				
	(0.352)	(17.447)				
FTC x Treat x Female			4.712***	-317.959***		
			(0.783)	(33.380)		
FTC x Treat x Size1					1.535***	-74.368***
					(0.560)	(29.164)
FTC x Treat x Size2					5.144***	-306.107***
					(0.408)	(19.167)
Age	0.128***	0.079***	0.015***	1.161***	0.010***	1.939***
	(0.454)	(0.002)	(0.008)	(0.418)	(0.008)	(0.443)
Age^2	-0.001***	-0.253***	-0.001***	-0.249***	-0.001***	-0.254***
	(0.000)	(0.026)	(0.000)	(0.025)	(0.000)	(0.027)
Gen_Edu	-1.013***	-0.048***	-1.014***	-2.224***	-1.089***	-0.442***
	(0.162)	(0.009)	(0.163)	(0.420)	(0.162)	(0.009)
Tech_Edu	0.337***	0.132***	-0.266***	-0.257***	0.292***	0.248***
	(0.212)	(0.002)	(0.216)	(0.254)	(0.216)	(0.018)
GVA	0.003***	-0.049***	-0.179***	-0.165***	0.223***	-0.235***
	(0.009)	(0.008)	(0.068)	(0.032)	(0.068)	(0.020)
Observations	32,261	32,261	32,261	32,261	32,261	32,261
Adjusted R^2	0.08	0.21	0.07	0.28	0.18	0.21

Note: Worker-level clustered standard errors are in parentheses. Intercept estimates not reported. Wages are deflated by CPI. GVA is transformed into Log. All regressions contain state and industry level fixed effects Asterisks indicate significance levels: *** p < 0.01, ** p < 0.05, * p < 0.1. Data source: Periodic Labour Force Survey (2017-18).

X. Conclusion and Discussions:

The growing incidence of precarious employment across all sectors is a serious challenge for the developing country like India. The faster growth of precarious employment vis-à-vis regular employment also has economic consequences in the sense that they immediately widen income inequality. In this paper we analyzed wage differences between permanent and temporary contracts workers using nationally representative Employment-Unemployment Survey of India. Individual characteristics explain a large part of the observed wage gap between contract and permanent workers. However, a substantial fraction of the gap remained unexplained. Building upon earlier studies, we argue that even within the same group of employment category, workers receive unequal wages due to their different types of tenure security, industry structures, employment status that gives more bargaining powers to few and none to majority of workforces, social identity and finally, differential impact of labour market institutions.

The wage premium for permanent contracts persists when estimated separately by age groups, education groups, gender, tenure contract security and across varied labour market regimes. Individuals with low age, low skill, and lower social strata and education, working in a highly import competitive industry and especially working in manufacturing sector receives lower wage premium. It is interesting to note that women and Muslim workers receives negative wage premium. Since the last one decade, the major focus is on providing skills and vocational training programmes for creating decent employment. Our results indicate that the technical education should be designed considering the skills requirements of the markets. Departing from an earlier analysis on human capital variables, we have also accounted for macroeconomic factors such import competition strengths and labour regulation regimes in determining the wage inequality between two types of workers. Changing dynamics of industrial relation, reducing coverage of labour laws and lack of legal entitlements are exacerbating the wage gap between workers. The employment protection laws are not causing rigidity is evidenced by high level of precarity in terms of high incidence of non-formal-contract workers. But rather it is providing evidence for reduced inequality. Precarity promotes neither economic efficiency nor decent work and hence is bad from both economic and normative lenses. Then, formalization of labour market is important.

Secondly, the introduction of fixed term contracts in the highly export oriented "textile, footwear, electronics, and apparel" manufacturing industries resulted in promoting indecent work and unfavorable labour market outcomes. The reform has entrapped fixed term workers into adverse working conditions leading to persistence discrimination against them in terms of high work effort and lower wages. It has also exacerbated economic vulnerabilities through widening gender disparity for female workers. Fixed term workers experience adverse working conditions and pay heavy wage penalties in large size firms compared to small-size firms. Our results largely point towards ineffective enforcement mechanism that fails to enforce workers' rights despite the reform aims at providing an equal treatment in term of work effort and wages for both categories of workers. Therefore, this reform has acted as less of stepping stones and more of dead ends for the burgeoning numbers of fixed term contract workers in India.

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