

The Economic Impact of New Firms in Punjab

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Motivation

- Economic growth and socioeconomic development are interlinked though not necessarily the same.
- One important aspect of this is the idea that new firms create employment opportunities and growth followed by socioeconomic development.
- But there is little empirical evidence in developing countries on the actual socioeconomic impact of new firms on economic growth.
- Except for macroeconomic analyses that have looked at how overall level of industrial activity effects overall growth rates.

Motivation

- We use a unique dataset for Punjab and use it to see how the entry for different types of firms in a district over time affects socioeconomic outcomes.
- In particular we see how firm entry in the districts of Punjab over time have affected economic outcomes such as:
 - district level industrial employment,
 - district level primary school enrollment rates and
 - the number of new hospitals at the district level.
- We also disentangle the impact of different types of firms by looking at the impact of entry of firms of different sizes (small, medium and large).
- We also see how the entry of firms that produce export goods affects these economic outcomes.

What does the literature tell us?

- The impact of new firm entry on regional development is complex because there are so many factors at play.
- There the direct effects of firms entering a market like higher output and employment.
- There are also indirect effects like larger or more competitive markets after firm entry :
 - more innovation as a result of new firm entry,
 - greater variety and quality of products,
 - the development of ancillary goods and services producers, etc.
- Also it is extremely difficult to separate out the impact of macroeconomic factors on regional development from the impact of firm entry.
- If regional employment goes up, is it because of some positive macroeconomic shocks that may affect regions differently or is it because of new firm entry?

What does the literature tell us?

- For this reason the literature on new firm entry is varied in nature:
 - some of the literature has looked at the impact of economic fluctuations on regional growth.
 - while others have looked at the impact of firm entry and economic fluctuations on different economic sectors like manufacturing and services.
 - recent literature has focused on the impact of firm entry across regions on regional employment.

Our liberal deviation from the literature

- New firm entry can have a significant impact not just on regional employment but also on regional socio-economic development.
- So we also look at the impact of new firm entry on other regional characteristics like:
 - primary school enrollment,
 - the number of primary schools
 - the number of hospitals.

Empirical strategy

- Our empirical analysis followed the standard estimation procedure discussed in the firm entry and regional development literature.
- The dependent variable under consideration (such as growth in employment or primary enrollment) is regressed on the following independent variables:
 - the contemporaneous rate of firm entry
 - lagged values of firm entry
 - as well as control variables such as the population density and the average firm size in district.
- And we fully accept that there is a difference between causation and correlation.

Data

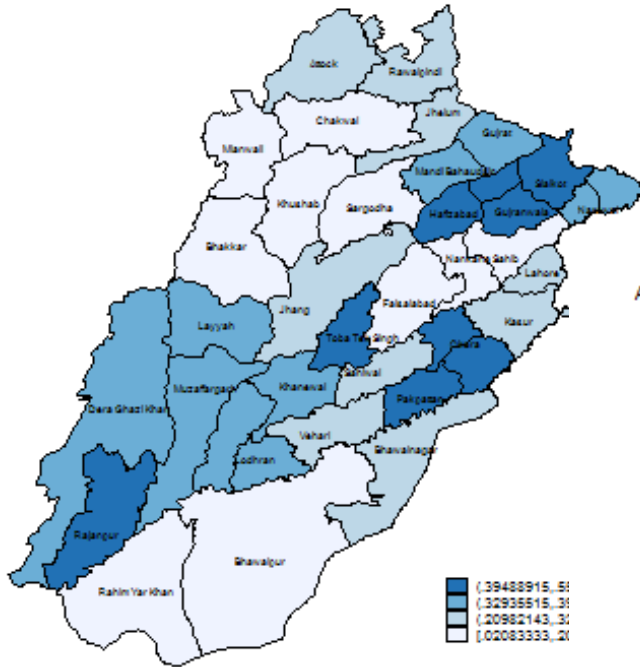
- We use data from the Government of Punjab's Directory of Industries (DOI) for 2010, 2006 and 2002 which is a firm level data set that covers more than 18000 manufacturing firms.
- This data set includes information on a firm's year of establishment, employment level, initial investment, location, product manufactured and industry.
- We used the DOI for the construction of measures of the district level growth in employment, firm birth and the average size of a firm.
- The paper also uses the Punjab Development Statistics (PDS) from 2006 to 2012 for information on health indicators, education indicators, population and the area of a district.

Some Interesting maps from the data

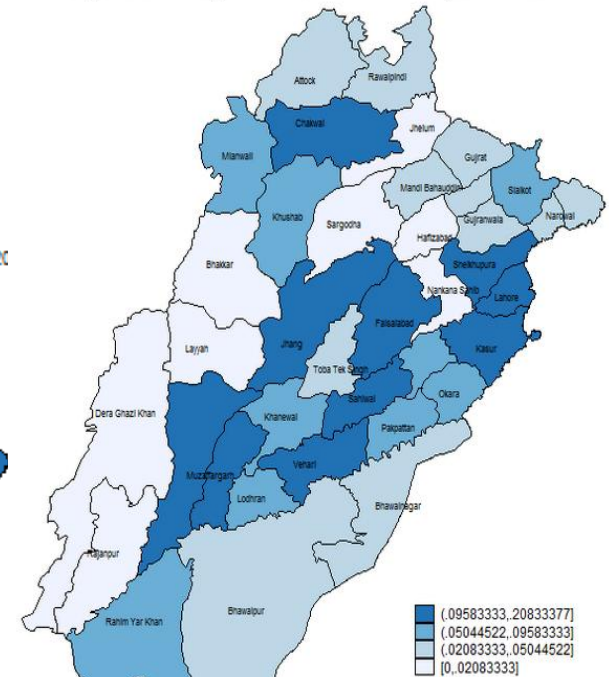
- We begin by looking at maps explaining the regional breakdown of industrial employment and firm distribution by size across districts of Punjab.
- In particular we map:
 - The district level breakdown on industrial employment in Punjab.
 - The districts which have the highest share of small scale firms, medium scale firms and large scale firms as a proportion of total firms in the district.
 - The breakdown of the districts with the highest proportion of export good producing firms.

Concentration of Small, Medium and Large firms in Punjab

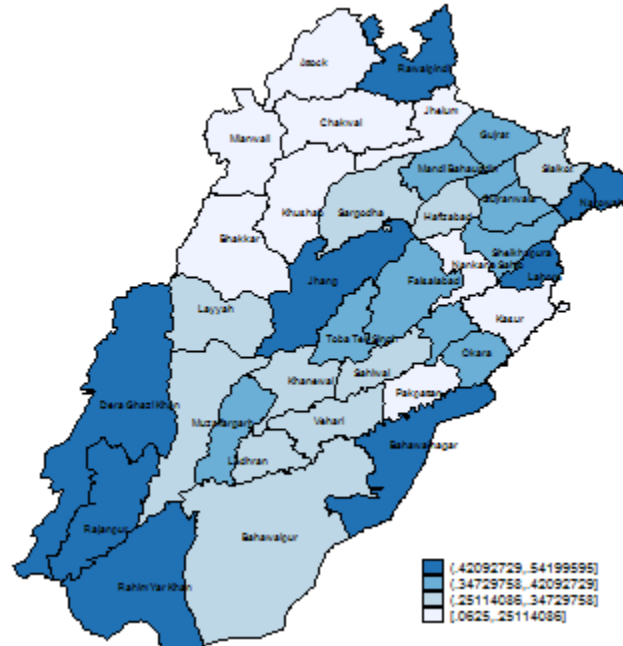
Average number of small new firms in districts of Punjab- 1995-2010



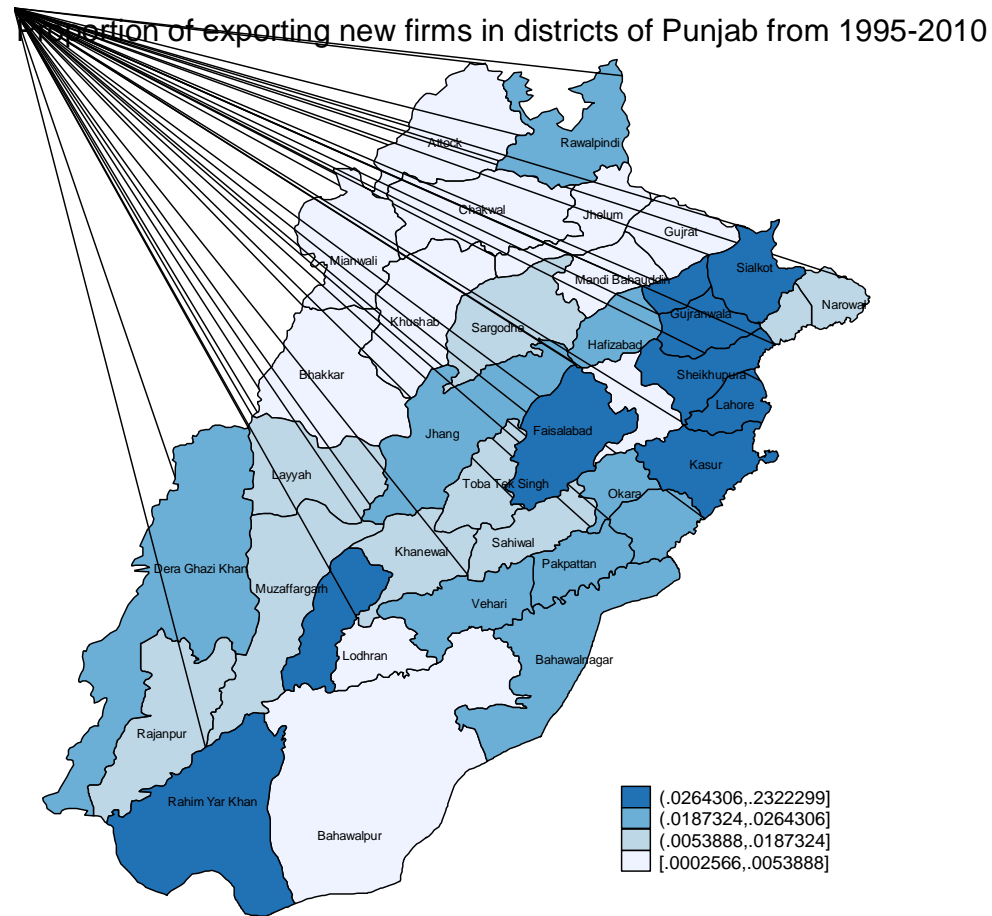
Average number of large new firms in districts of Punjab - 1995-2010



Average number of medium new firms in districts of Punjab -1995-2010



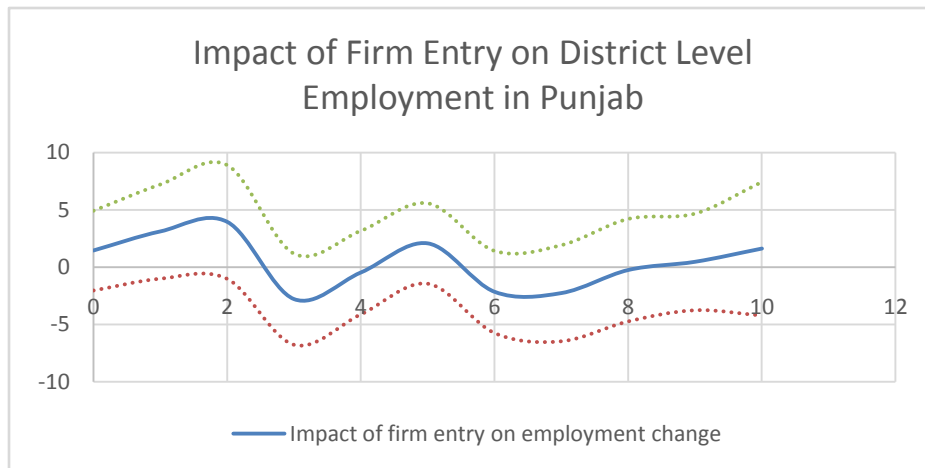
Concentration of Export Producing Firms in Punjab



Our empirical results

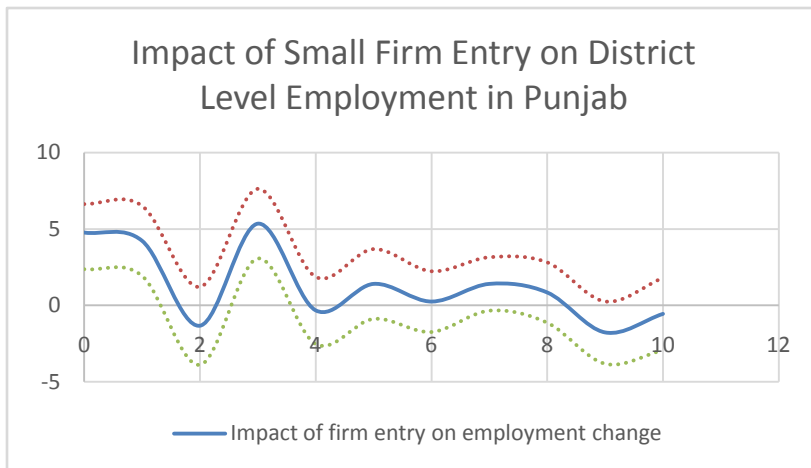
- First, we promise there are no regression tables (though they are in the paper)!
- Second, we illustrate the empirical results using graphs:
 - These graphs tell us if about the impact of new firm entry on various variables like employment, primary school enrollment and the number of hospitals across districts.
 - The numbers of the x-axis show us how many periods later new firm entry affects the variable.
 - And the number on the y-axis is the impact.
 - The dotted lines are confidence intervals.

Impact of Firm Entry on Employment

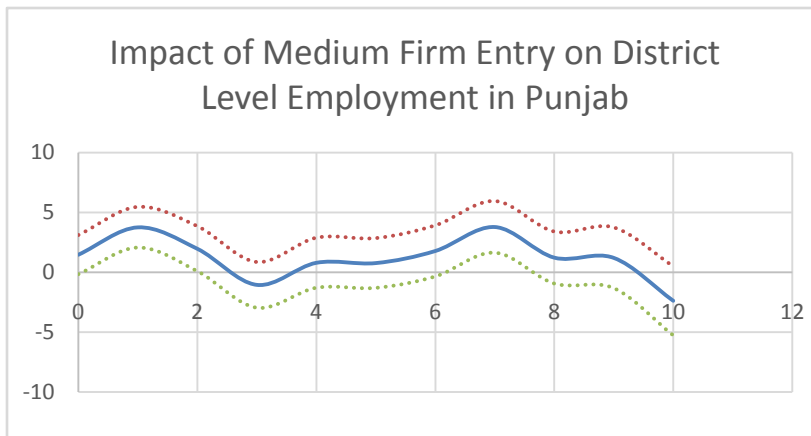


- There is a fluctuating impact of firm entry on employment over time.
- This impact is not statistically significant.
- But in line with idea of :
 - ‘direct’ positive effect on employment;
 - followed a negative ‘displacement’ effect where new firm entry can lead to the exit of other firms
 - Finally leading to a positive ‘induced’ effect the firm’s entry can potentially stimulate the surviving firms to perform better and expand.

Impact of Small, Medium and Large Firm Entry on Employment



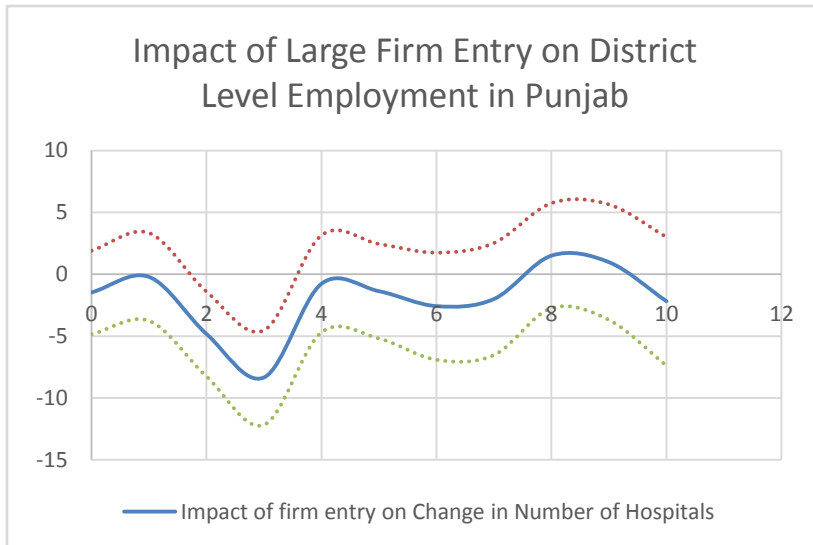
- Initially there is a positive impact on employment growth from small firm entry while it takes 1 year for the entry of medium sized firms to increase employment growth, though the employment impact of small sized firms is larger.



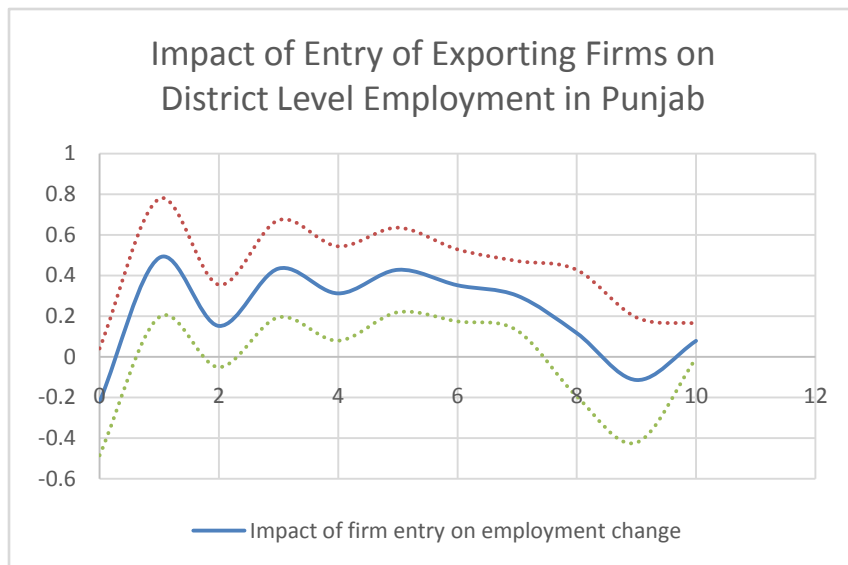
- So the entry of small sized firms has had the greater impact on employment across districts in Punjab, though the employment impact is faster when medium sized firms enter.

Impact of Small, Medium and Large Firm Entry on Employment

- On average, there is a significant decrease in the growth rate of employment a few years after a large firm enters the market and this impact is larger than the employment impact of a small firm entering.

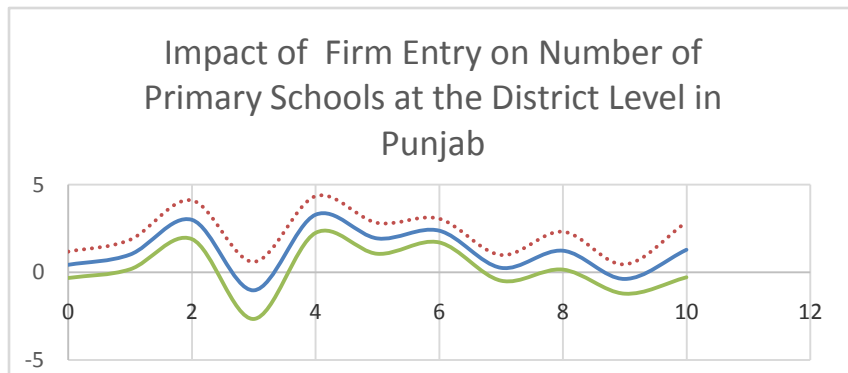
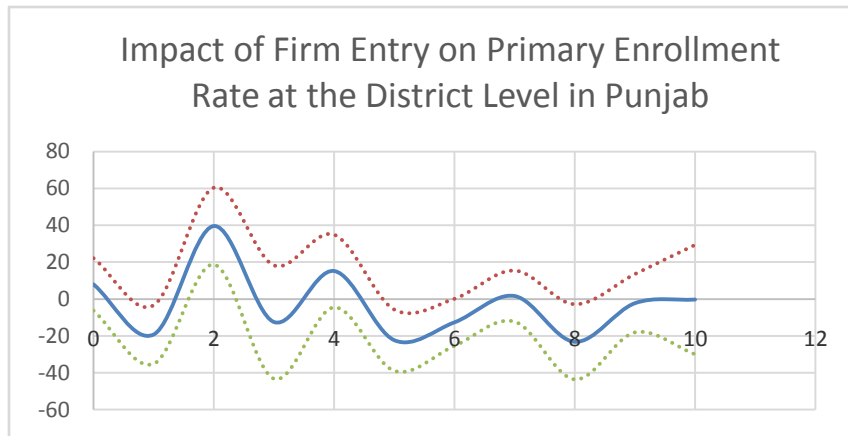


Impact of Export Good Producing Firm Entry



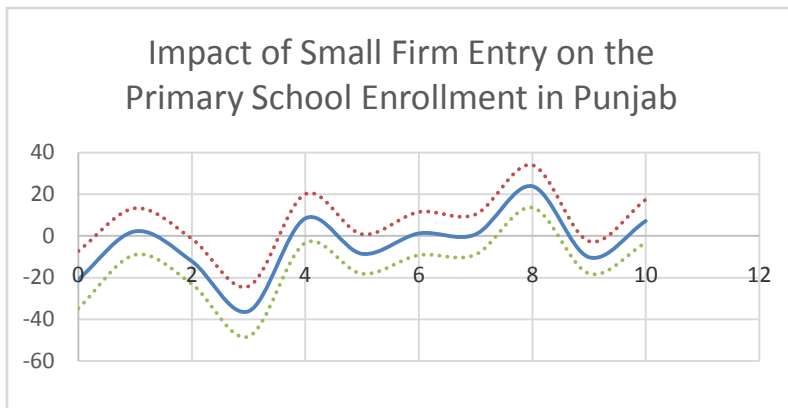
- As a exporting firm enters, the rate of change of employment increases by about half a percent after 1 year and this impact persists over many years.

Impact of Firm Entry on Schooling Outcomes

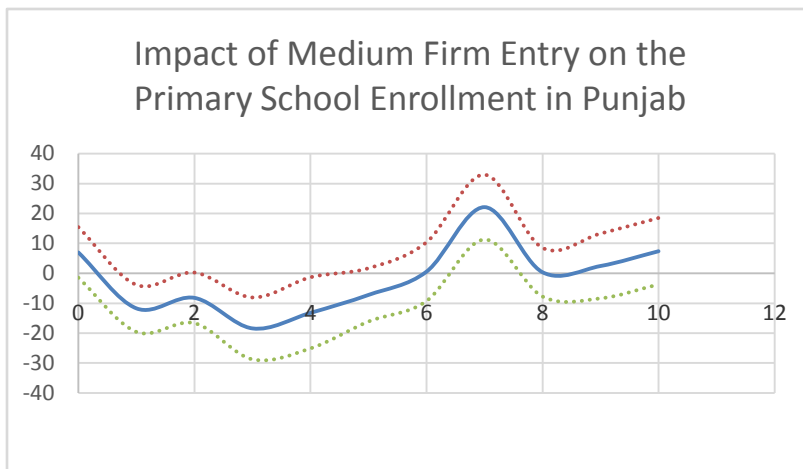


- The entry of a new firm increases the enrollment rates and the number of schools after about 1 year.
- While this impact persists over time for the impact on the number of schools, the impact on primary enrollment rates becomes insignificant after one year.

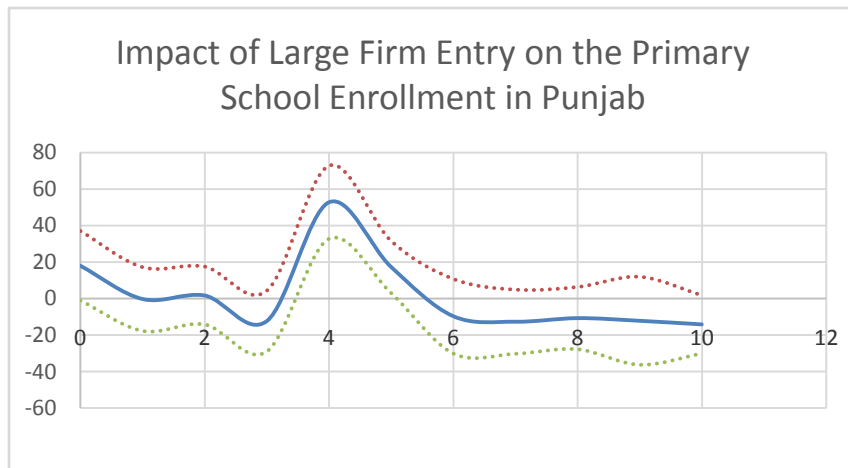
Impact of Small, Medium and Large Firm Entry on Schooling Outcomes



- The entry of small sized firms does not significantly increase primary enrollment, while the entry of medium sized firms initially leads to decreases in the district level primary enrollment rates for almost five years after which a positive impact on primary enrollment is found.



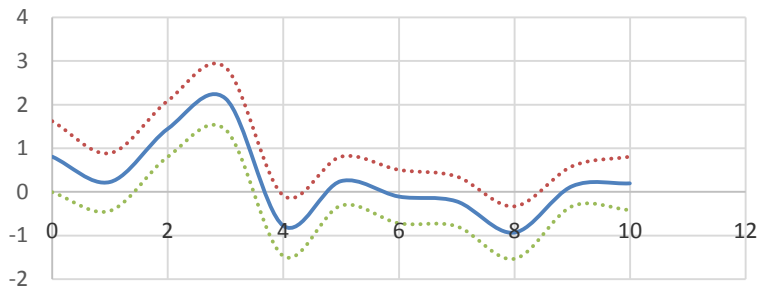
Impact of Small, Medium and Large Firm Entry on Schooling Outcomes



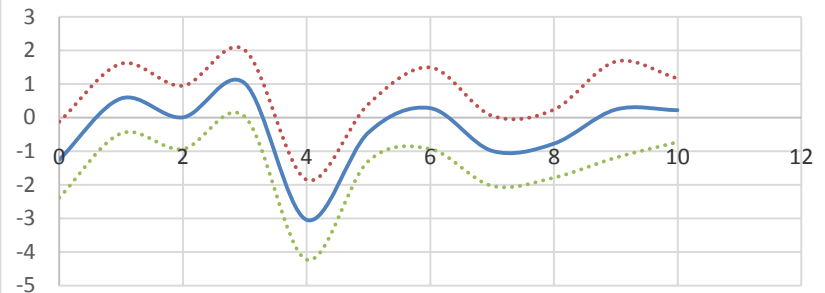
- The largest increase in the primary enrollment rates is found after the entry of large firm in a district, but this impact is only observed about 4 years after the entry of large firms and this impact is short lived.

Impact of Small, Medium and Large Firm Entry on Schooling Outcomes

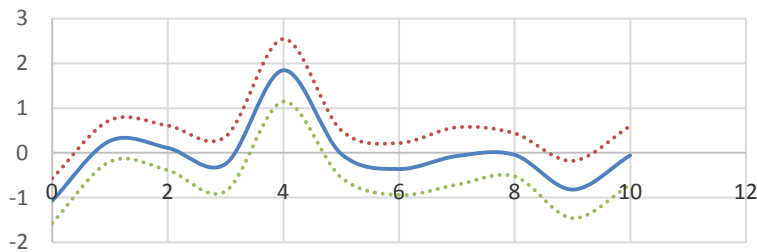
Impact of Small Firm Entry on the Number of Primary Schools in Punjab



Impact of Large Firm Entry on the Number of Primary Schools in Punjab

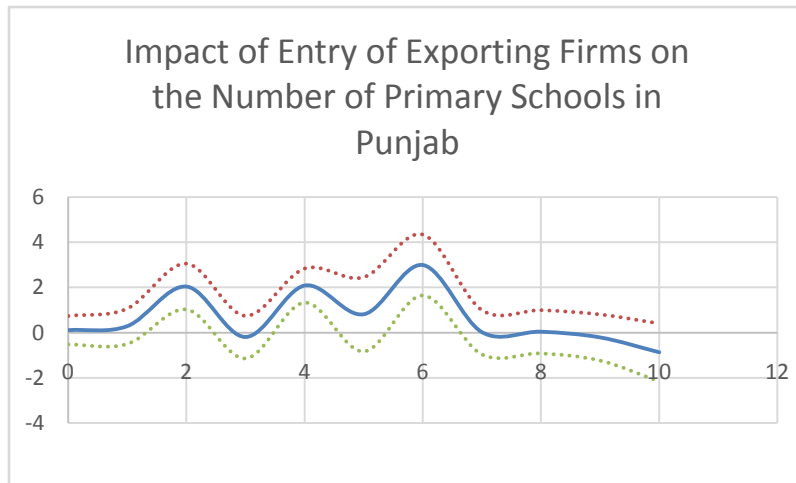
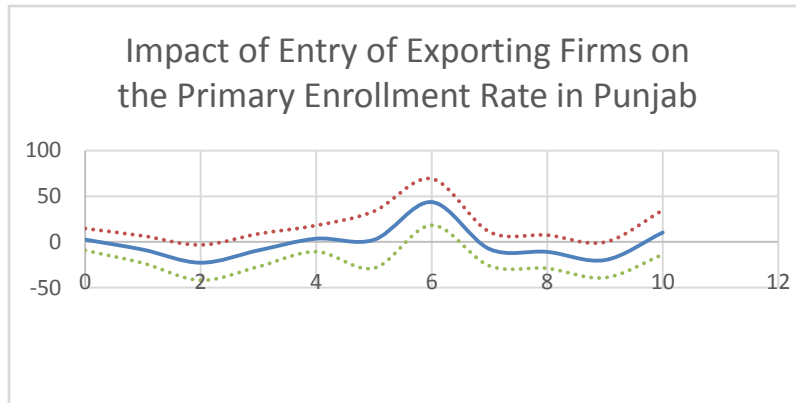


Impact of Medium Firm Entry on the Number of Primary Schools in Punjab



- The impact on firms of different sizes on the number of primary schools is relatively small.

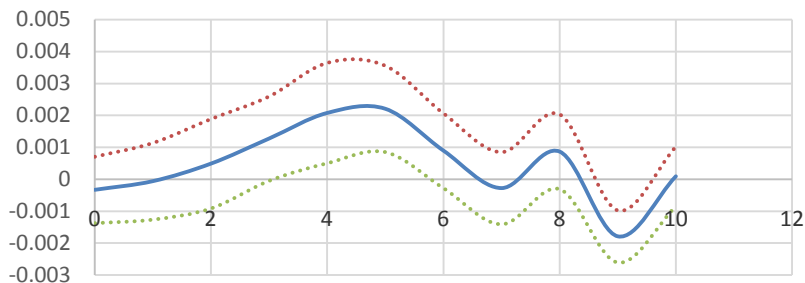
Impact of Export Good Producing Firm Entry



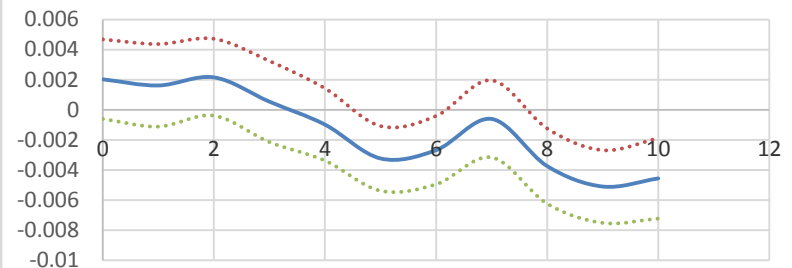
- The primary enrollment positively affect about 6 years while the impact on the number of primary schools in a district increases after a few years and fluctuates after that.

Impact of Small, Medium and Large Firm Entry on Number of Hospitals

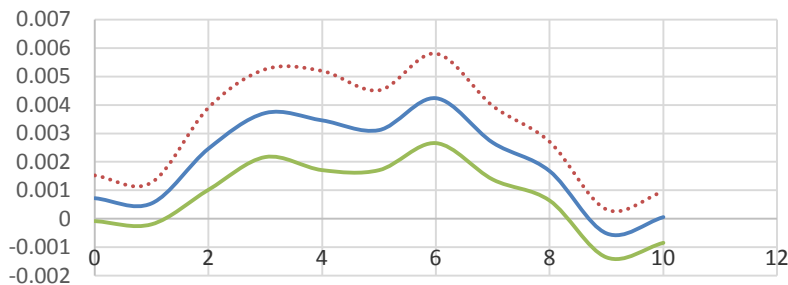
Impact of Small Firm Entry on the Number of Hospitals in Punjab



Impact of Large Firm Entry on the Number of Hospitals in Punjab



Impact of Medium Firm Entry on the Number of Hospitals in Punjab



- There are marginal increases in the number of hospitals due to the entry of medium scale firms
- We find a negative impact from the entry of small and large sized firms (though the impact of the latter is more sustained) .

Some key results worth mentioning again

- Our results generally prove that the impact of new firm entry may fluctuate over time:
 - In particular, when new firms enter they initially cause an increase in employment due to the direct employment effect.
 - But this is followed by a decrease in district level employment due to the displacement of workers as some firms are driven out of business.
 - Eventually employment goes up as the remaining firms perform better and expand.
- The entry of small firms leads to short term increases in employment while this impact on employment is slightly longer for medium sized firms.
- The largest effect on employment (by a factor of 2) is the entry of large firms and this negative impact takes a number of years to materialize.
- Also, though the entry of export oriented firms has a significant impact on employment and this impact is sustained over time, it is substantially less than the impact of the entry of other types of firms.

Some key results worth mentioning again

- In terms of schooling, firm entry tends to initially decrease primary enrollment rates which is followed by a pattern of increased and decreased enrollment rates.
- The entry of small scale firms has little impact on primary school enrollment initially though it eventually leads to a decrease in primary school enrollment followed by gradual increases.
- The entry of medium sized firms leads to a significant decline in primary enrollment rates over time for 7 years after which the impact becomes positive.
- The largest positive impact on primary enrollment occurs after the entry of large firms, though it takes almost 4 years for this impact to occur.
- The entry of an export good producing good has the same type of impact as the entry of a large firm (which is a large positive impact on primary school enrollment after about 6 years).

Conclusions

- We have shown that the entry of new firms is important not just for employment but also for other socioeconomic indicators.
- But some of these impacts are immediate and some of these impacts take years to occur.
- What is needed is a recognition by policy makers that different types of firms have different types of impacts and that a one size fits all approach to industrial development doesn't work.