A Review of "The China Syndrome: Local Labor Market Effects of Import Competition in the United States" by Autor et al. (2013)

Reviewer 2

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> I am wiser than this person; for it is likely that neither of us knows anything fine and good, but he thinks he knows something when he does not know it, whereas I, just as I do not know, do not think I know, either. I seem, then, to be wiser than him in this small way, at least: that what I do not know, I do not think I know, either.
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> Plato, *The Apology of Socrates*, 21d

> To err is human. All human knowledge is fallible and therefore uncertain. It follows that we must distinguish sharply between truth and certainty. That to err is human means not only that we must constantly struggle against error, but also that, even when we have taken the greatest care, we cannot be completely certain that we have not made a mistake.
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> Karl Popper, 'Knowledge and the Shaping of Reality'

Overview

Citation: Autor, D. H., Dorn, D., and Hanson, G. H. (2013). The China Syndrome: Local Labor Market Effects of Import Competition in the United States. *American Economic Review*, Vol. 103, No. 6, pp. 2121–2168.

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Abstract Summary: The paper analyzes the effect of rising Chinese import competition between 1990 and 2007 on US local labor markets, exploiting cross-market variation in import exposure and instrumental variables. Rising imports cause higher unemployment, lower labor force participation, reduced wages, and sharply increased transfer benefit payments in exposed local labor markets.

Key Methodology: Instrumental Variables (IV) estimation using Commuting Zones (CZs) as the unit of analysis, exploiting cross-market variation in import exposure and instrumenting US imports using changes in Chinese imports by other high-income countries.

Research Question: What are the effects of rising Chinese import competition between 1990 and 2007 on US local labor markets?

Summary

Is It Credible?

This article represents a significant methodological pivot in the study of international trade, moving the focus from national aggregates to local labor markets. By treating Commuting Zones (CZs) as sub-economies, Autor et al. successfully illuminate the uneven distributional consequences of trade shocks. The evidence presented compellingly demonstrates that the costs of import competition are not frictionless adjustments but are instead concentrated geographically and absorbed through mechanisms previously underappreciated in the trade literature, specifically rising transfer payments like SSDI (p. 2121). The identification of these "hidden" adjustment margins—whereby trade-induced unemployment morphs into permanent disability tenure—is a genuine contribution to our understanding of labor market dynamics.

However, the credibility of the article's most headline-grabbing claims regarding the aggregate magnitude of US manufacturing job losses relies on strong extrapolation assumptions. The calculation that Chinese imports caused a net reduction of 1.53 million manufacturing workers assumes that the negative shocks in exposed regions were not offset by positive spillovers in non-exposed regions. While the authors acknowledge this limitation, the article relies heavily on the persistence of the trade deficit to justify the extrapolation (p. 2139). If this assumption does not hold, the estimates represent differential regional performance rather than a net national loss. Additionally, the identification strategy, while rigorous, cannot categorically rule out that common global technology shocks—such as automation—simultaneously drove US job losses and facilitated Chinese export growth, potentially confounding the causal attribution (p. 2130).

Finally, the mechanism of "sluggish labor mobility," which underpins the decision to use local labor markets as the unit of analysis, is supported by evidence that is statistically weak. The finding that population does not adjust to trade shocks relies on a regression with standard errors large enough to encompass substantial migration responses. Consequently, while the article successfully proves that trade shocks have profound, localized, and fiscal

consequences, its precision regarding the *total* national quantity of jobs lost to China is overstated, and the mechanism of labor immobility is less empirically secure than the narrative suggests.

The Bottom Line

This article provides compelling evidence that the costs of free trade are geographically concentrated and often absorbed by the social safety net rather than through efficient labor reallocation. It successfully challenges the assumption of frictionless adjustment by highlighting the rise in disability uptake and non-participation in exposed regions (p. 2121). However, the specific claim that Chinese imports explain over half of the manufacturing decline from 2000 to 2007 is based on strong assumptions about the absence of cross-regional spillovers and should be viewed with caution. Readers should accept the qualitative finding—that trade shocks caused significant local distress—while treating the aggregate national job loss figures as upper-bound estimates dependent on strong assumptions (p. 2139).

Specific Issues

Methodological assumptions in aggregate extrapolation: The calculation of a net national loss of 1.53 million manufacturing workers (p. 2140) relies on extrapolating cross-sectional differences between Commuting Zones to the national level. This approach assumes that the effects observed in exposed regions are absolute losses rather than relative shifts, and that there are no offsetting general equilibrium effects (such as labor reallocation) in non-exposed regions. While the authors acknowledge this assumption (p. 2139), the validity of the aggregate figure hinges entirely on the premise that the "missing" jobs did not reappear elsewhere in the economy, a condition the regression analysis itself cannot verify.

Potential confounding by global technology shocks: The instrumental variable strategy uses Chinese imports to other high-income countries to isolate supply shocks. However, as the authors acknowledge (p. 2130), this does not fully rule out the possibility of global technology shocks, such as automation, which could be common to all high-income countries. If automation simultaneously reduced labor demand in the US and other developed nations while making labor-intensive industries more vulnerable to Chinese competition, the instrument would be correlated with the error term. This would imply that the estimates capture the combined effect of trade and automation, rather than trade alone.

Imprecision in labor mobility estimates: The conclusion that labor mobility is sluggish is central to the article's framework but is supported by statistically weak evidence. The regression analyzing the effect of import shocks on working-age population changes yields a coefficient of -0.050 with a large standard error of 0.746 (p. 2142). This lack of statistical significance is interpreted as evidence of no mobility, but the wide confidence intervals do not preclude the possibility of substantial population responses. The "null" result is therefore an absence of evidence rather than strong evidence of absence.

Unverified hypothesis regarding wage composition: The article finds no significant negative effect on manufacturing wages, which contradicts standard supply and demand expectations given the employment decline. The authors hypothesize that this is due to composition bias, where the least productive workers exit the sector, masking real wage declines

(pp. 2146–2147). While plausible, this hypothesis is not tested empirically within the article, leaving a key anomaly in the results explained only by speculation.

Data limitations in SSDI analysis: The analysis links trade shocks to rising SSDI payments at the aggregate CZ level but cannot verify the demographic composition of the new claimants. The authors acknowledge that they cannot directly test whether the specific workers displaced by trade are the same individuals claiming disability benefits due to data limitations (p. 2145). This relies on the assumption that the aggregate correlation reflects individual-level transitions.

Use of stale input-output data and national deflators: The study relies on the 1992 US input-output table for the entire 1990–2007 period (p. 2155), which may fail to capture changes in supply chains over nearly two decades. Additionally, the use of a national Personal Consumption Expenditures (PCE) price deflator to calculate real wages (p. 2146) ignores potential variations in local price levels. If prices for non-traded goods fell in depressed regions, the decline in real wages may be overstated.

Weak instrument in robustness check: In the robustness check isolating imports from Mexico and Central America, the instrument employed is statistically weak, with a first-stage t-statistic of 2.2 (p. 2162). This implies an F-statistic well below the conventional threshold for strong instruments, rendering the estimates for that specific specification unreliable and potentially biased toward the OLS estimate.

Future Research

General equilibrium modeling of local spillovers: To address the limitations of extrapolating local differences to national totals, research should integrate the reduced-form local labor market estimates into a structural general equilibrium model. This would allow for the quantification of spillover effects and labor reallocation across regions, providing a verified estimate of net national job losses that accounts for potential gains in non-exposed areas.

Worker-level longitudinal analysis of wage and disability dynamics: To resolve the puzzle of rigid manufacturing wages and the inference of disability uptake, research should utilize matched employer-employee administrative data. By tracking individual workers over time, researchers can empirically test the composition bias hypothesis regarding wages and definitively establish whether the specific individuals displaced by import competition are those entering the SSDI rolls, rather than relying on aggregate geographic correlations.

Disentangling automation from trade shocks: Future studies should employ firm-level data on technology adoption (e.g., robotics or software investment) alongside trade exposure metrics. By explicitly controlling for the adoption of labor-saving technologies within the same instrumental variable framework, research can more precisely isolate the marginal contribution of import competition versus global technological progress.