

Modeling Physical Production for Film and TV - Agglomeration Dynamics and Geographical Competition

Jake Daniels

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The film and television industry has recently undergone a significant shift in physical production away from Los Angeles to alternative hubs like Atlanta, Louisiana, the UK, Toronto, Vancouver, and Prague. Major studio executives publicly attribute this migration to several factors, including but not limited to: 1) More attractive **tax incentives** offered by competing regions. 2) Increasing **labor costs** in Los Angeles, exacerbated by recent labor strikes. 3) The **growth of skill and production capacity** in other locations, making them more viable long-term alternatives. These explanations may have a basis in reality, but they may also be specious arguments designed to further corporate interests. Understanding the dynamics behind this shift is critical for various parties - studios, policymakers and talent alike - who are invested in Los Angeles' production economy.

To begin, building a model that captures the historical growth of production in Los Angeles when it was the singular hub for the entire industry may illuminate industry specific agglomeration dynamics. In the early 1900s, the fledgling creatives found a home in the city, far from where they could be sued by motion-picture camera patent holder Thomas Edison's company. Large, empty spaces, consistent weather and a flow of "westward expansion" capital made the city a viable home for the industry. As pictures found commercial success, technological, financial and physical infrastructural investment increased the scale of productions, while a community of skilled laborers developed new techniques. Audiences around the world consumed the art eagerly, and thus Los Angeles became the only major player in entertainment.

By the end of the 20th century and into the beginning of the 21st, other locations began developing physical infrastructure of their own to try and lure the industry away. Soundstages in London now mirror the California city's in terms of square footage. Visual effects talent in New Zealand and Canada have attained best-in-class reputations. Nearly every film or television show shoots in Toronto or Prague when they need a "New York" backdrop, whereas before they might have built a city street facade on a backlot in Burbank, simply because it's less expensive with tax incentives. Skill pipelines across the world have advanced with the advent of social media. Agglomeration dynamics have begun to kick-in elsewhere - the rest of the world is catching up.

Skill and capacity growth loops are therefore likely at play, along with **cost and incentive loops**. **Labor market effects**, especially as a result of the most recent strikes, have certainly played a role and may have exacerbated a downward cycle. Of course, **financial success of the final product** made in each of these hubs also plays a part in studios deciding where to produce.

Without production, Los Angeles stands to lose its economic cornerstone. Local government and private companies have a few policy levers available to them that interact with the above dynamics:

- **Adjusting Tax Incentives:** How competitive do California's incentives need to be to retain productions and the local economic boon they bring?

- **Investing in Workforce Training:** Can improving skill levels and capacity in LA offset cost disadvantages?
- **Regulating Labor Costs:** What are the long-term effects of wage policies on production location decisions?
- **Infrastructure Investments:** How does expanding studio space and resources in LA impact production retention?

At its core, the model will track the movement of productions between locations via stocks:

- **Productions Seeking a Home** (a pool of potential productions)
- **Productions in LA** (productions currently being filmed in Los Angeles)
- **Productions Elsewhere** (productions filmed in competing regions)
- **Completed Productions** (all productions that finish filming, regardless of location)

From there, additional complexity may be introduced to differentiate **types of productions**, as some may be more valuable than others.

- **Production Days vs. Production Count:** A single feature film may contribute more to the local economy than multiple reality TV seasons due to longer shoot durations, wider exposure of the final product (tourism and cultural benefits) and higher local expenditures.
- **Genre-specific trends:** Some genres (e.g., reality TV) may be more susceptible to relocation based on cost incentives.

In summary, this model aims to provide insight into the competitive dynamics of film production location decisions and identify policy strategies that could help LA maintain its position as a global production center and will be built with the following iterative design:

1. **Baseline Model** – A simple stock-and-flow structure to explain how LA originally became the dominant production hub, focusing on key growth loops such as skill development and capacity expansion.
2. **Expansion Model** – Introduce competing locations and model the forces that drive productions away from LA.
3. **Policy Testing** – Simulate different interventions to assess their effectiveness in reversing or mitigating the trend of production flight.

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