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Project 1: Innovation and Imitation in the US-China AI Race

From August 2025 to August 2026, Chinese AI models have rapidly become more popular, their share of tokens served on OpenRouter, a major AI API platform, rising from 17% to 45%. They have also achieved similar capabilities to American models at reportedly much lower costs (DeepSeek, 2024). Anthropic and OpenAI have accused many of the Chinese labs of copying their capabilities with a technique called distillation (Anthropic, 2026a, 2026b; Seetharaman and Arámburo, 2026). My project has two goals. First, I test the claim that Chinese AI labs are distilling frontier models. Second, I will determine the effects of distillation on innovation in AI models and welfare in the AI market. Grossman and Helpman (1991) have shown that the welfare effects of imitation can be ambiguous.

To answer these questions, I have estimated a model of dynamic oligopoly in the tradition of Ericson and Pakes (1995), using data scraped from OpenRouter, a major AI API platform. My data include daily prices of every model served on OpenRouter, the daily number of tokens served by each provider of each model, the average request length of each model, and benchmark scores for more prominent models. Currently, I estimate distillation using variation in implied cost training costs of non-frontier models relative to frontier models. In other words, firms further from the frontier should be able to train more cheaply, but only up until they catch up. My initial estimates are suggestive that distillation is occurring in the market. However, this strategy cannot distinguish distillation from other forms of idea diffusion. Anthropic has recently implemented measures that should make distillation more difficult (Anthropic, 2026c). If successful, these measures will reduce the rate of benchmark score improvements of labs that are actually distilling Claude.

Project 2: The Toll of Conflict

Berman et al. (2017) have shown that mining is an important driver of conflict in Africa as armed groups use it as a revenue stream. Most metals produced in Africa reach overseas export markets, which means that the transportation of these metals represents another opportunity for armed groups to extract revenue. Schouten (2022) has supported this, showing that both state and non-state actors frequently set up roadblocks to extract toll

revenues from passers-by. Using data on gold suitability from Girard et al. (2022), I show that there is excess violence along the shortest path from possible artisanal mines to ports, driven largely by state actors. I then build a dynamic structural model of toll setting and conflict that allows me to quantify the toll revenues from specific locations and evaluate how counterfactual infrastructure projects may change the spatial distribution of violence.

References

Anthropic. 2026a. "Detecting and Preventing Distillation Attacks." February 23, 2026. https://www.anthropic.com/news/detecting-and-preventing-distillation-attacks.

Anthropic. 2026b. "Detecting and Countering Misuse of AI: September 2026." Threat intelligence report, September 10, 2026. https://www.anthropic.com/threat-intelligence-report-september-2026#illicit-distillation-sep-26.

Anthropic. 2026c. "Strengthening Our Defenses against Distillation Attacks." October 12, 2026. https://www.anthropic.com/news/distillation-defenses.

Berman, Nicolas, Mathieu Couttenier, Dominic Rohner, and Mathias Thoenig. 2017. "This Mine Is Mine! How Minerals Fuel Conflicts in Africa." *American Economic Review* 107 (6): 1564–1610. https://doi.org/10.1257/aer.20150774.

DeepSeek-AI. 2024. "DeepSeek-V3 Technical Report." arXiv:2412.19437. https://doi.org/10.48550/arXiv.2412.19437.

Ericson, Richard, and Ariel Pakes. 1995. "Markov-Perfect Industry Dynamics: A Framework for Empirical Work." *Review of Economic Studies* 62 (1): 53–82. https://doi.org/10.2307/2297841.

Girard, Victoire, Guillaume Vic, and Teresa Molina-Millán. 2022. "Gold Suitable Geological Layers for the African Continent (shp and tif)." Dataset. Nova SBE, Figshare. https://novasbe.figshare.com/articles/dataset/Gold_suitable_geological_layers_for_the_African_continent_shp_and_tif_/28957058.

Grossman, Gene M., and Elhanan Helpman. 1991. "Quality Ladders and Product Cycles." *Quarterly Journal of Economics* 106 (2): 557–86. https://doi.org/10.2307/2937947.

Schouten, Peer. 2022. *Roadblock Politics: The Origins of Violence in Central Africa*. Cambridge: Cambridge University Press.

Seetharaman, Deepa, and Fabiola Arámburo. 2026. "OpenAI Says China's DeepSeek Trained Its AI by Distilling US Models, Memo Shows." *Reuters*, February 12, 2026. https://www.reuters.com/world/china/openai-accuses-deepseek-distilling-us-models-gain-advantage-bloomberg-news-2026-02-12/.