ALEXANDER COPESTAKE

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EDUCATION:

University of Oxford, DPhil in Economics 2021
Fields: International Trade, Technology, Development
Thesis: *China, AI, Robots, Taxation: Four Essays in Applied Microeconomics*
Supervisor: Chris Woodruff. Examiners: Richard Baldwin, Ferdinand Rauch

University of Oxford, MSc in Economics for Development (with Distinction) 2017

University of Oxford, BA in Philosophy, Politics and Economics 2015

PROFESSIONAL AND RESEARCH EXPERIENCE:

Economist (Economist Program), International Monetary Fund	**2021-Present**
Short Term Consultant, Development Research Group, World Bank	2021
Research Assistant, Professor Ian Goldin, Oxford Martin School, University of Oxford	2020
Fund Internship Program, International Monetary Fund, Washington D.C.	2019
Research Assistant, Professor Chris Woodruff, University of Oxford	2017

TEACHING EXPERIENCE:

International Trade – MSc Development Economics for Dr Jin Ho Kim	2020-21
Development Economics – Undergraduate Economics for Dr Sanjay Jain	2019-21
Econometrics – Ph.D. Continuing Education for Professor Jonathan Michie	2019-20

AWARDS, GRANTS, SCHOLARSHIPS:

CEPR Structural Transformation and Economic Growth Research Grant (£15,000)	2021
Oxford CSAE grants for fieldwork and administrative data (£5,000)	2020
Geoff Riddell Scholarship, Vincent's Club, Oxford	2019
Kellogg Progress Scholarship, Clarendon Fund, Oxford	2017
Harvard Business School Credential of Readiness	2016
First in year, Development Economics Finals, Oxford	2015
Second in year, Philosophy and Economics of the Environment Finals, Oxford	2015
Westerman Pathfinders Scholarship, Balliol College, Oxford	2015
NT Huxley Exhibition, Balliol College, Oxford	2014

PRESENTATIONS:

2021	Ruhr Graduate School in Economics, Oxford CSAE Conference, Royal Economics Society Symposium, University of Pretoria, Bavarian Young Economists' Meeting, NBER Economics of AI Conference, Institute for New Economic Thinking, North East Universities Development Consortium, Indian Statistical Institute
2020	Oxford Trade Workshop, Oxford Blavatnik School of Government, University of Warwick
2019	Queen Mary University of London, International Monetary Fund Fiscal Affairs Department

RESEARCH PAPERS:

"***AI, firms and wages: Evidence from India***"
with Katherine Stapleton, Ashley Pople and Max Marczinek

We examine the impact of artificial intelligence (AI) on hiring and wages in service sector firms, using a novel dataset of vacancy posts from India's largest jobs website. We first document a rapid rise in demand for machine learning (ML) skills since 2016, particularly in the IT, finance, and professional services industries. Vacancies requiring ML skills list substantially higher wages, but require more education and are highly concentrated both geographically and in the largest firms. Exploiting plausibly exogenous variation in exposure to advances in AI capabilities, we then examine the impacts of establishment demand for ML skills, as a proxy for AI adoption. We find that growth in the demand for ML skills has a direct negative impact on the total number of vacancies posted by incumbent firms. Drawing on rich data on wage offers, we further find that growth in ML demand reduces wage offers for all but the lowest-paid roles.

"Robots and trade: Implications for developing countries"
with Erhan Artuc, Paulo Bastos and Bob Rijkers, forthcoming in 'Robots and AI: A New Economic Era' (eds. Lili Yan Ing and Gene M. Grossman), Oxon and New York: Routledge.

We examine the effects of robotization on developing countries, extending the Ricardian model of Artuc, Bastos and Rijkers (2018) and drawing on new firm-level robotization data from eleven developing countries. We present four main results. First, robot adoption in advanced economies can ultimately benefit workers in developing countries through lower prices and increased demand for intermediate inputs – though there may be adverse effects in the short run, particularly for the least mobile workers. Second, continued Chinese subsidization of robots is likely to reduce China's trade with OECD countries, while increasing that with developing countries – as China's profile of comparative advantage increasingly aligns with the former. Third, larger and more globally-connected firms in developing countries are more likely to adopt robots, aligning with findings in developed countries, as they can afford the fixed costs of upgrading, and value the resulting precision more highly. Fourth, these firms expand post-adoption, increasing the competitive pressure on the smaller, less international firms in which those workers most vulnerable to replacement by robots are also more likely to work.

"***Inputs, networks and quality-upgrading: Evidence from China in India***"

This paper exploits China's accession to the WTO to investigate the propagation of a supply shock across the Indian production network. Consistent with a model of multi-product manufacturers gaining access to higher-quality components, a fall in input tariffs raises revenue, quality and prices whilst lowering quality-adjusted prices and the probability of product exit. Upgrading persists for at least ten years; at the peak in 2010, products with a 10% higher pre-accession input tariff, and hence a larger post-accession fall in tariffs, have 5.3% higher quality. This in turn raises quality further down the supply chain, with input-output linkages amplifying the one-step effect by up to 75%. These results highlight a potential beneficial impact of the 'China shock' in developing countries, namely supply-driven quality upgrading.

"***The Role of Market Structure and Timing in Determining VAT Pass-Through***"
with Matthieu Bellon, IMF Working Paper No. 2021/061

We examine the role of market characteristics and timing in explaining observed heterogeneity in VAT pass-through. We first extend existing theory to characterize the roles of imperfect competition and product differentiation, then investigate these relationships empirically using a panel of 14

Eurozone countries between 1999 and 2013. We find important roles for product market regulation and product quality, and little impact of advance announcement of reforms. Our findings have important implications for policy-makers considering VAT rate adjustments, by illuminating which of the consumers or the producers would experience the brunt of a reform across different settings.

"***How important is worker quality in total factor productivity dispersion? Evidence from manufacturing firms in Ghana***" *– MSc thesis, awarded Distinction*

This paper considers the importance of human capital in determining the dispersion of total factor productivity in Ghanaian manufacturing firms. The real value of manufactured output in approximately 200 firms in a 12-year panel is regressed on two measures of human capital to derive a TFP residual, using the Levinsohn-Petrin method to control for unobservable productivity shocks which would otherwise bias the estimates. Education of production workers is found to explain less than 2% of TFP dispersion, measured as the ratio of the 90th to 10th percentiles of firm productivity. Even when including an imputed variable for the impact of unobserved human capital, such as intelligence and motivation, worker quality explains less than 15% of TFP dispersion. This suggests that it is predominantly differences in other factors which make some firms much less productive than others, contrasting with evidence from developed countries for a larger role for human capital. The importance of human capital as a determinant of TFP dispersion varies substantially across manufacturing industries. Several explanatory hypotheses are considered, and the results are found to be consistent with corresponding variation across industries in: i) the intrinsic productive value of human capital, ii) the degree to which the best managers are able to employ the best workers, and iii) the importance of some unmeasured physical capital with which human capital is complementary.

SELECTED OTHER ACTIVITIES:

Junior Dean, St Benet's Hall, University of Oxford	2019-2021
President, Oxford University Blues Committee	2019-20
Captain, Oxford University Men's Hockey Blues (First XI)	2018-19
President, Kellogg College Middle Common Room	2018-19

PERSONAL INFORMATION:

Born:	19 June 1993
Citizenship:	United Kingdom, Republic of Ireland
Software:	Stata, Mata, SQL, Gephi