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To Whom It May Concern:

I am writing this letter to express my enthusiastic support for **Michela Giorcelli**'s application for a position in your department. While I know Michela much less well than does her main advisor Ran Abramitzky, I am quite familiar with her job market paper, in which Michela displays an enormous amount of creativity and determination. I am sure the paper will become an instant classic in both the fields of economics history and management. Based on what I have seen of Michela's capabilities in performing this work I am happy to recommend her for a tenure-track position in any department, school of management or policy school.

In her job market paper, Michela studies the long-term effects of a little-known component of the Marshall Plan: the United States Technical Assistance and Productivity Program ("Productivity Program" for short in Michela's paper), in place from around 1952 to 1958. This program was meant to improve the productivity of small and medium European firms, and consisted primarily in a transfer of US managerial know-how (in the form of study trips of European managers to US plants, followed by consulting sessions of US experts in European firms). In the case of Italy, an additional component of the program consisted of a technology transfer (in the form of a loan that firms had to use to buy modern, US-made equipment). Michela uses this program to understand the long-run impacts of management and technology transfers on firm growth. This is a fundamentally important question – given the persistence of heterogeneity in firm productivity observed both within industry within country and across countries, understanding whether early-on differences in management quality and/or technology access can have long-lasting impacts is key. The historical question of whether the Marshall Plan contributed to the outstanding recovery of Europe or whether Europe would have recovered in any case is also very important in itself, and also related to issues of development since its answer has some bearing on the potential role of foreign aid today.

Ex ante, in convincingly answering these important questions with this historical episode Michela faced two major challenges: (1) data – we are looking at a program and at firms from 60 years ago; (2) identification – typically firms that select to participate in such programs are different along important dimension from those firms that do not. To overcome the first challenge, Michela painstakingly hand collected and digitized data from the Italian archives. (Incidentally this is why I do not know Michela as much as I would like to: She was off campus during much of this "writing" phase of her PhD, a period that coincided with my first years at Stanford.) The challenge of identification, she overcame through an idiosyncrasy in the history of the program that, as I discuss below, made the program a very neat "natural experiment".

Italian firms in pilot regions could apply for either the management component, or the loan component, or both. Provided they fit a few criteria, including having balance sheets, all firms that applied were granted the program. Unexpectedly the funding for the program changed and it ended being implemented in only one "province" per region. Michela exploits the fact that she knows which firms in non-program provinces within pilot regions would have gotten the program and which component of it (since she knows which firms applied to which component) to estimate the impacts of each program component (management only, technology only, or the bundle) using a difference-in-difference approach. For this identification strategy to be possible, Michela had to hand collect from archives and to digitize the data on which firms had applied (even in provinces that ended up outside the program), as well as their balance sheets over 20 years, starting from 5 years before the program inception (so that she can test her parallel trend assumptions) and ending 15 years after inception.

Unsurprisingly given the historical reason why the program ended up implemented in only one province per region rather than in all provinces, Michela shows that the program provinces (she calls them "experimental provinces") are overall quite comparable to the other provinces and the difference-in-difference approach appears eminently reasonable. Results are unchanged if she uses a synthetic control approach to refine the difference in difference analysis. All in all, Michela thus unearthed a fascinating natural experiment that, combined with relentless archive digging, presents an unprecedented opportunity to understand the long-term impacts of management and technology transfers, as well as that of their combination.

Michela estimates large impacts of the management transfer and large impacts of the bundled program, that persist in the longer run. Namely, firms that benefitted from either program were significantly more likely to survive, and conditional on surviving, they became more productive, saw a growth in market share, were more likely to start exporting, etc. This is a fascinating set of results. It means that badly managed firms, while less likely to stay in business, still manage to stay in business for a long time and don't catch up with better managed firms. This implies that management quality has a long term impact on total TFP even at the country level, since it seems that neither the selection effect (badly managed firms dying) nor potential spillover effects (badly managed firms could learn from good ones and improve over time) seem to be strong enough to reduce the heterogeneity in firm productivity and performance over time. In contrast, the technology transfer alone had some impact on the short run but that faded away within 15 years. Together, these findings suggest that management quality is a key ingredient in the production function of firms. While recent evidence from field experiments in selected contexts had shown this to be true in the very short run, Michela's contribution is to show that it is true in the long run, thereby implying that starting conditions matter.

Michela's job market paper demonstrates her creativity and her skills, but also a critical trait for a successful academic: studied relentlessness. Indeed as is readily apparent from reading her paper, Michela's study required a phenomenal amount of historical research as well as persistent and focused work. Michela displays similar qualities in her ongoing work, which I am less familiar with (primarily due to the fact that I am on sabbatical in Paris this year), but which also studies the determinants of productivity and innovation, using another natural experiment from Italy's history.

To wrap up, Michela has a clear research agenda, and has already demonstrated that she has the skill set, the creativity and the work ethic needed to successfully deliver on this agenda. I am convinced that she will have a productive career as an economic historian and I give her my enthusiastic recommendation. Any department or school searching for an applied microeconomist would be lucky to add Michela to their team.

Do not hesitate to contact me at pdupas@stanford.edu if you have any questions.

Sincerely,

P. Dup

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