Twitter Thread by John Horton



John Horton
@johnjhorton

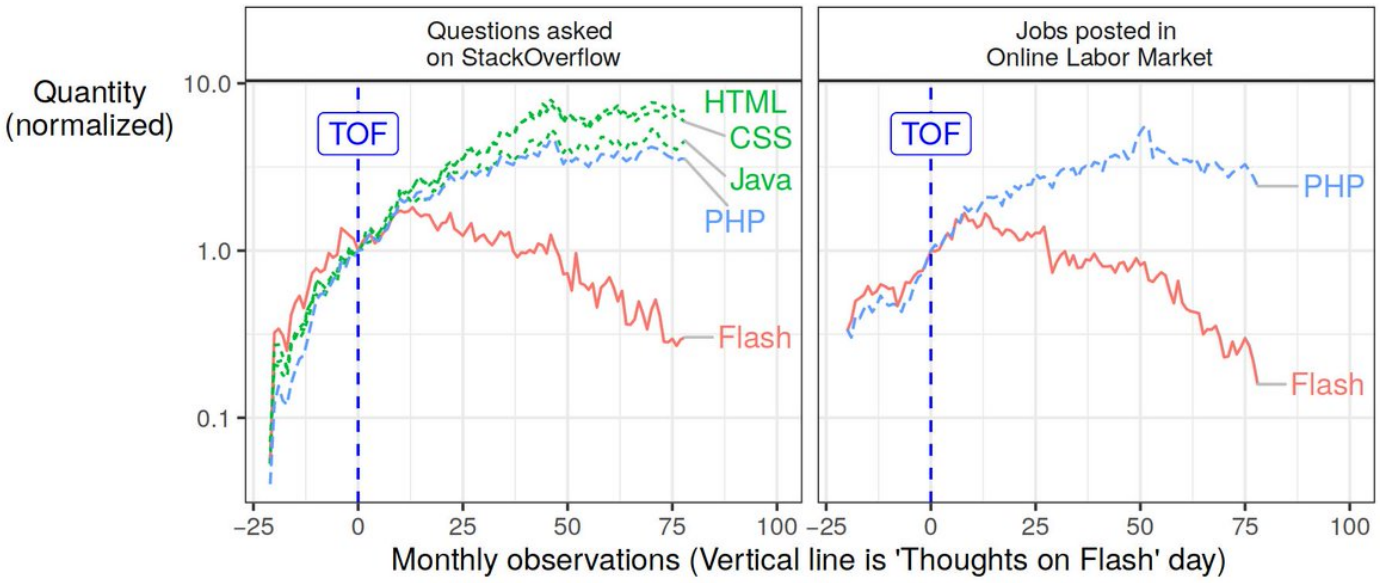
What happens when a skill you have becomes obsolete? No, this isn't a R vs. Stata thread---it's a thread about a working paper w/ @sonnytambe! https://t.co/w6nLf1tnST

Abstract

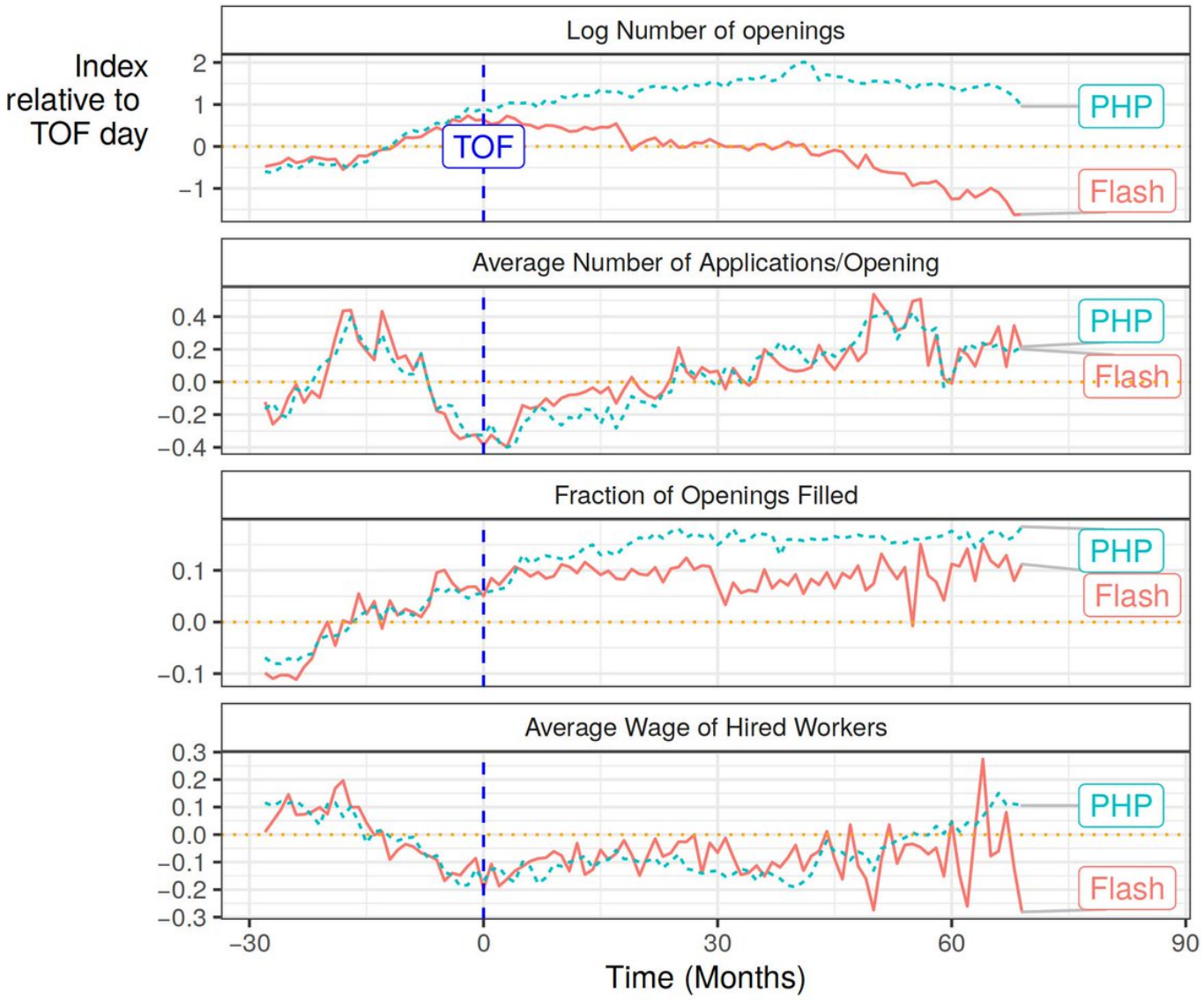
In 2010, Steve Jobs announced that Apple would no longer support Adobe Flash—an at-the-time popular set of tools for creating Internet applications. In the years following Jobs' announcement, the use of Flash declined precipitously. However, using data from an online labor market, we show there was no detectable reduction in Flash hourly wages or even in the number of applicants per Flash job. We show that the reason wages stayed flat was that the negative demand shock for Flash quickly became a supply shock: Flash specialists transitioned away from Flash, and new market entrants were less likely to specialize in Flash. A retrospective survey of affected Flash workers reveals them to be highly forward-looking, abandoning skills with no perceived future and picking up new skills, primarily through learning-by-doing. The implications for the spread of new technologies that require complementary labor are discussed.

The skill we look at is Adobe Flash, which @apple decided to no longer support back in 2010, which in turn caused demand/interest to plummet, as measured on @StackOverflow and in online labor markets, one of which is our empirical context

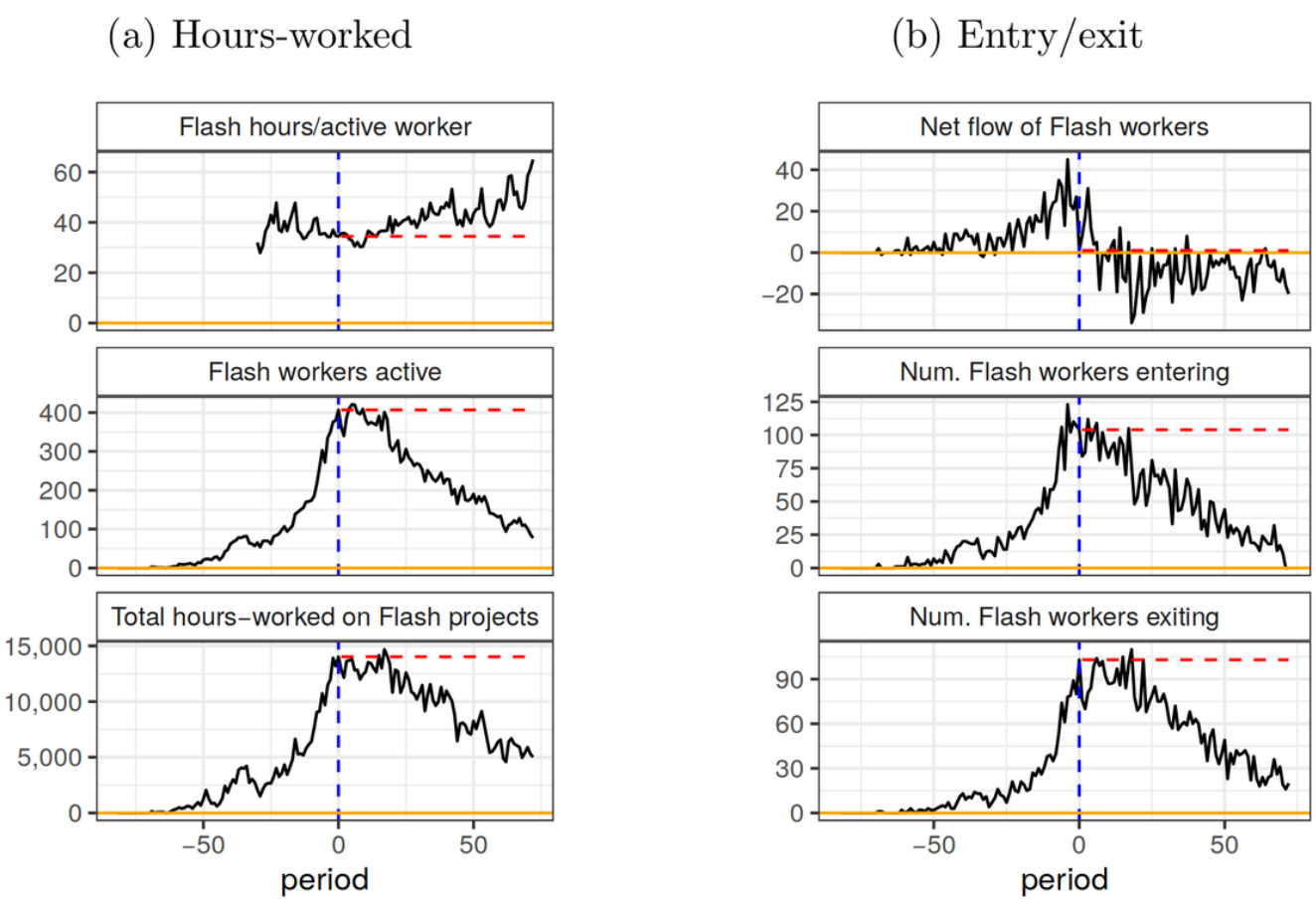
Figure 1: The decline of Flash on two platforms



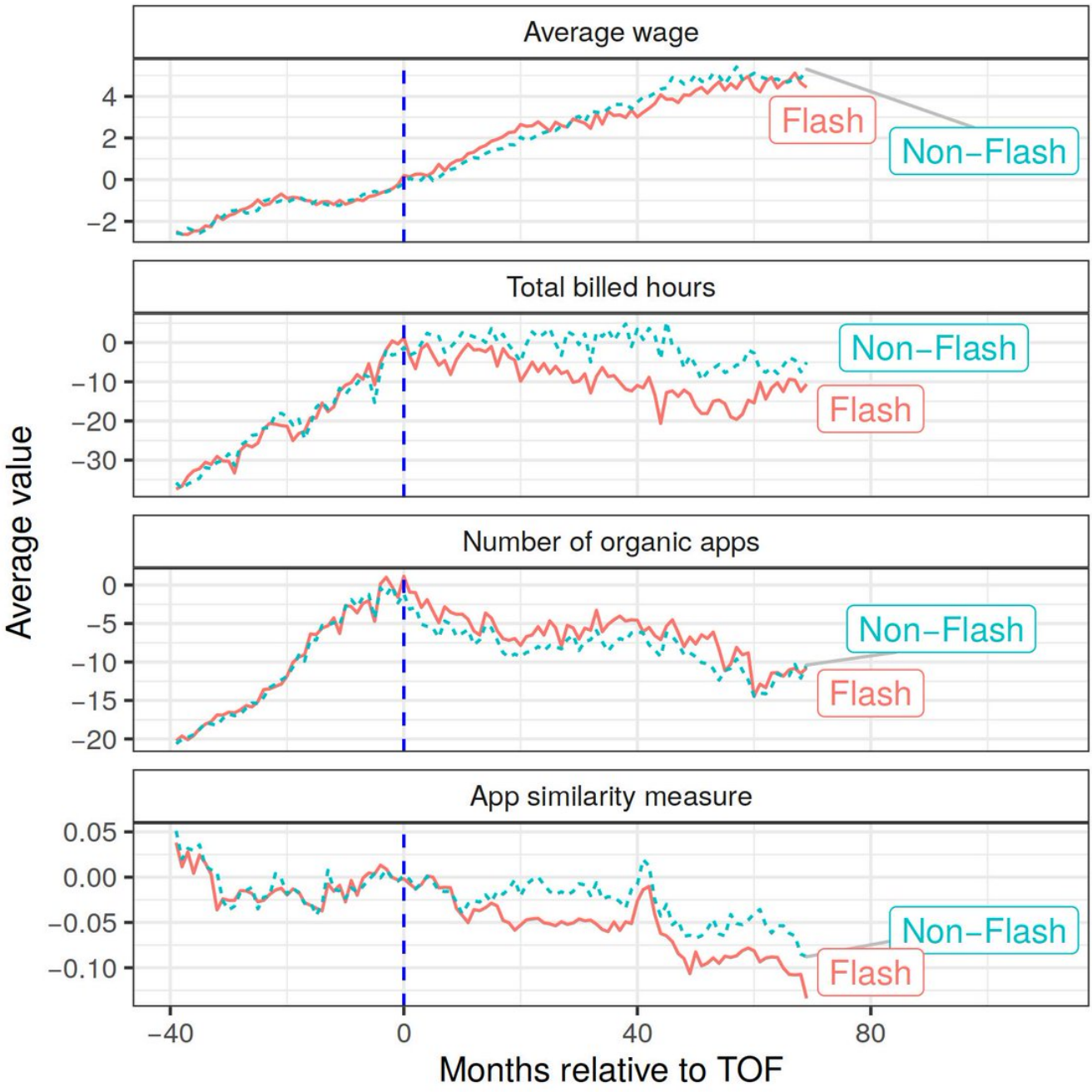
Despite the big fall-off in Flash jobs posted, very little else appeared to change in the market for Flash skills: wages for Flash jobs didn't fall, jobs didn't become easier to fill & openings weren't inundated with out-of-work Flash programmers



What happened was that (a) new entrants stopped specializing in Flash and (b) at least some existing Flash specialists started moving to other skills. In short, the demand shock quickly became a supply shock

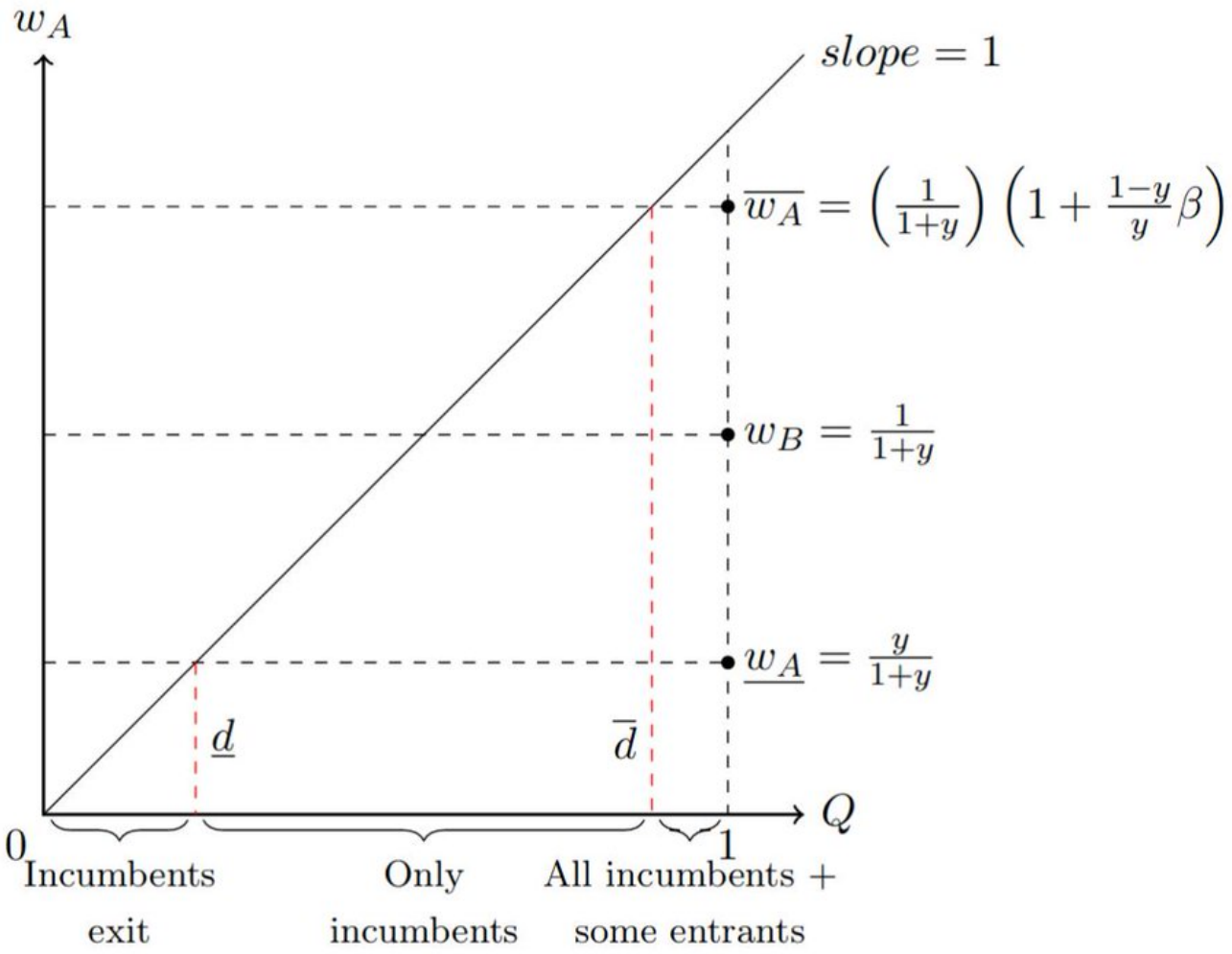


At the level of the individual Flash worker, using a matched sample, we find (a) no fall-off in their wages, (b) some decline on-platform hours-worked. The most-focused on Flash workers had substantial increases in application intensity and a movement towards new skills



In short, despite Flash skills being expensive to acquire, workers abandoning a skill with no perceived future create a de factor highly elastic supply curve, keeping wages "flat." We show how this is possible with a little toy model, of course.

Figure 5: Demand shocks and possible equilibria

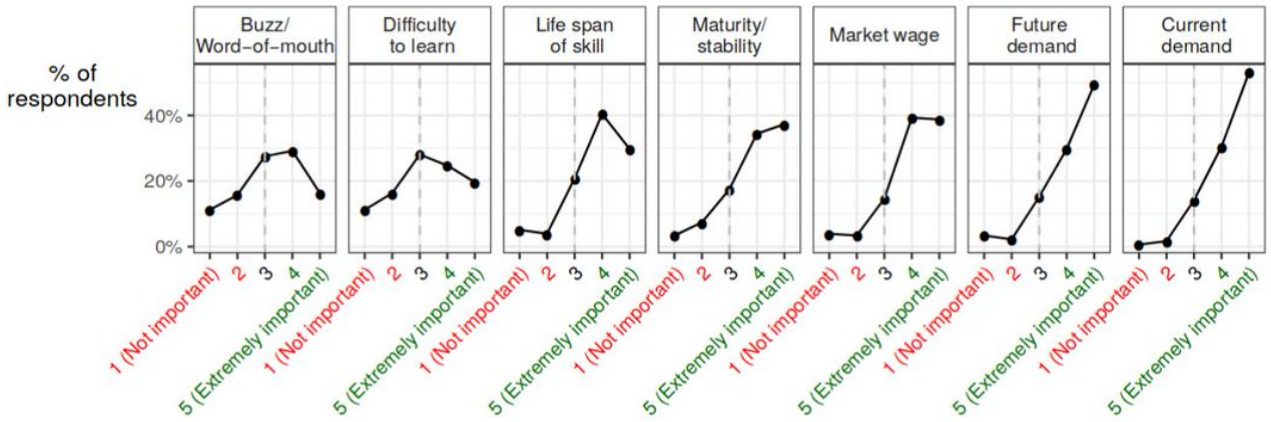


Notes: The x-axis is the quantity of labor in the A market during the d period; the y-axis is the wage in the A skill market during the d period. The wage in the B market is w_B is indicated and is $1/(1+y)$. The two relevant wages, $\overline{w_A}$ and $\underline{w_A}$, are plotted as horizontal lines. If the demand level is greater than $\overline{d}$, the market clears by only x of the would-be entrants choosing A. Below $\overline{d}$ but above $\underline{d}$, the market clears by all incumbents staying in the market but reducing their output on the intensive margin and the wage being at $\underline{w_A}$. For levels of demand below $\underline{d}$, the market clears by some incumbents choosing to exit.

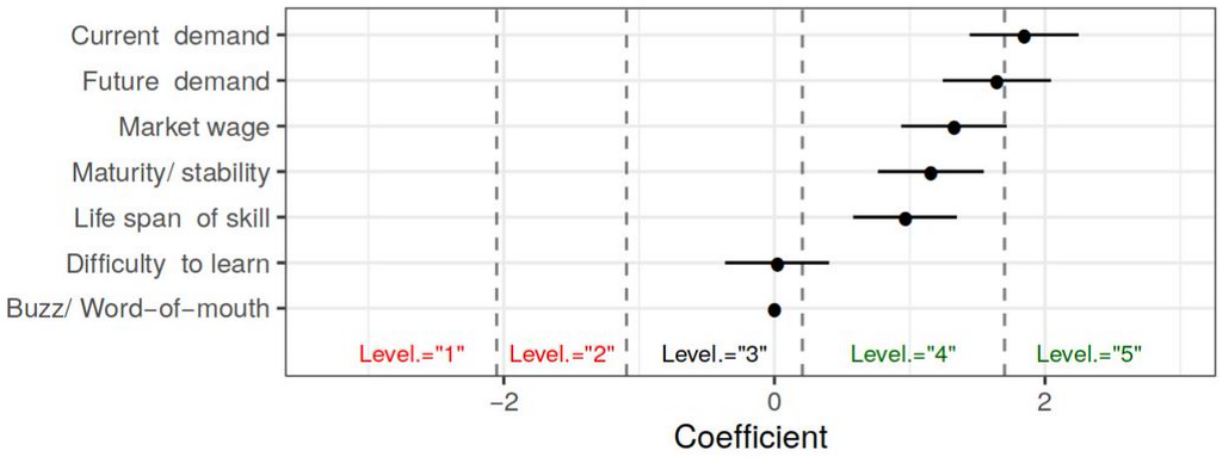
We also conduct a survey of Flash workers affected by the decline. They confirm many of our stylized facts & give color to the adjustment process. For one, they report being highly-forward looking and market-oriented & deciding what skills to pick up

Figure 13: Responses to the question: "On a scale of 1 to 5, how important are each of the following factors when deciding which technical skills to learn?"

(a) Fraction of respondents choosing each possible response, by factor



(b) Ordered logit model with cut-points and latent index effects

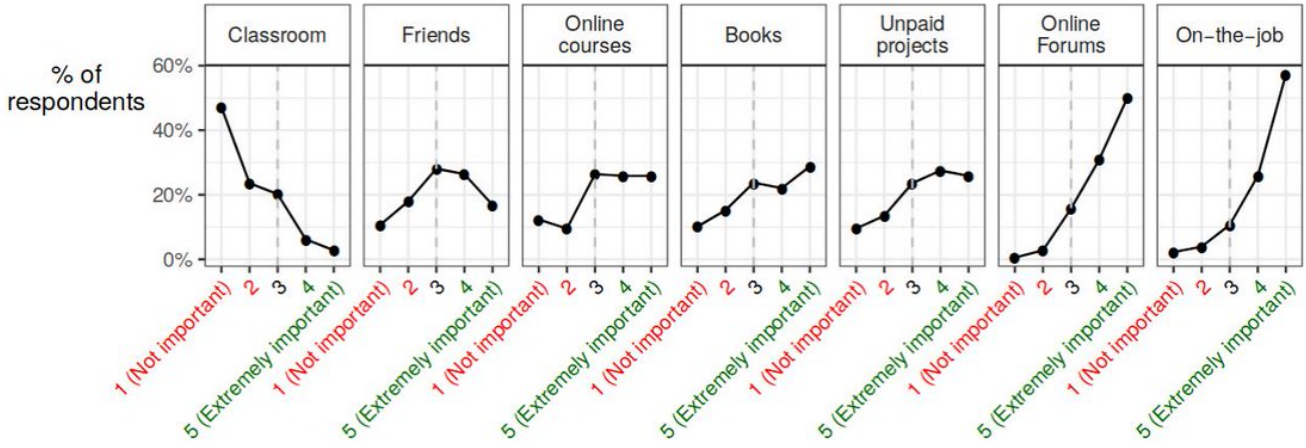


Notes: The top panel shows the fraction of respondents; the bottom panel the result of an ordered logit. Code to generate this figure is in Appendix C.6.11.

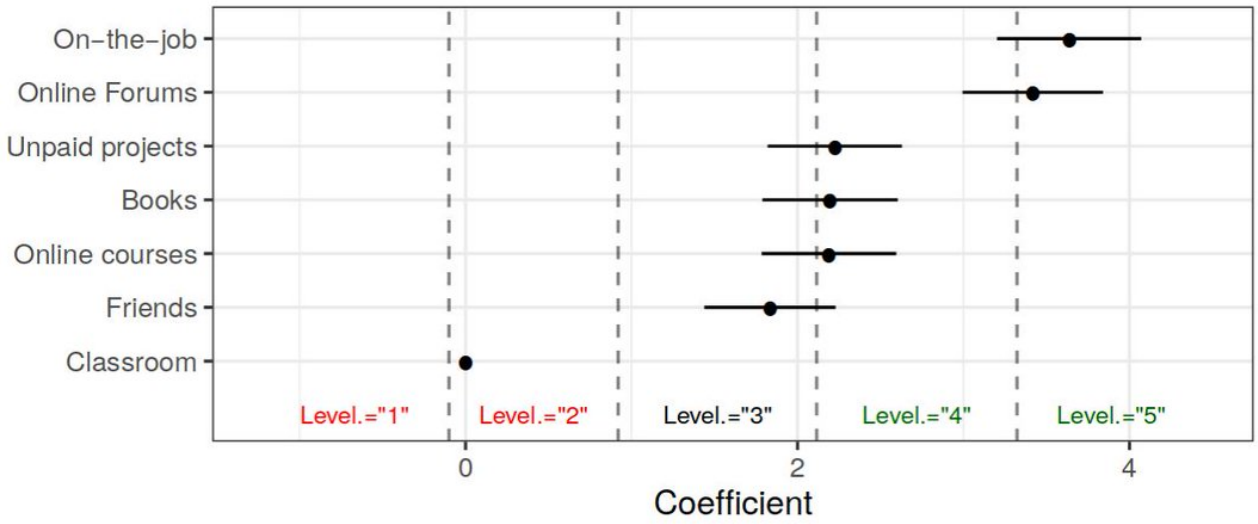
They also emphasize how critical on-the-job learning is to acquiring new skills. Sadly for us teachers, formal classroom learning gets almost no love

Figure 14: Responses to the question: "When you switch to a new technology, how important are each of the following when learning the new skill?"

(a) Fraction of respondents choosing each possible response, by method



(b) Ordered logit model with cut-points and latent index effects



Anyway, lots more in the paper & thanks for reading this far- check it out! https://t.co/w6nLf1tnST Comments, feedback, suggested citations (even to/esp to your own papers) most welcome!