Erratum for "Left Behind: Creative Destruction, Inequality, and the Stock Market"*

Leonid Kogan
MIT Sloan School of Management and NBER

Dimitris Papanikolaou
Kellogg School of Management and NBER

Noah Stoffman
Kelley School of Business

The purpose of this note is to make a correction to the published version of our paper (Kogan, Papanikolaou, and Stoffman, 2020).

Specifically, the correct expression for equation (27) in the paper is

$$\frac{dw_{i,t}}{w_{i,t}} = \delta^h \left(1 - \frac{H_t}{V_t + G_t + H_t}\right) dt + \frac{\lambda}{\mu_I} \frac{\eta\, \nu_t}{V_t + G_t + H_t} \left(dN^I_{i,t} - \mu_I\, dt\right), \tag{1}$$

where H_t, V_t, and G_t are as defined in the paper, that is, equations (24)–(26), while ν_t is as defined in equation (10).

The only difference between equation (1) and equation (27) in the paper lies in the drift term. The expression in the paper incorrectly ignores the fact that newborn agents have only human wealth, whereas existing agents hold a combination of financial assets and human wealth. This is a result of our assumption of how existing households hedge their mortality risk—the financial assets of households that die are re-distributed to existing households. Newborn agents by contrast enter the economy with only human capital as their source of wealth. Naturally, there is trade and everyone subsequently rebalances, but to the extent that financial and human wealth are not perfectly correlated—and they are not in our model—their differential properties affect the growth rate of households' relative wealth (1).

Examining (1) more closely, we can see one more channel through which the embodied shock ξ further displaces existing households. Specifically, as we can see in Figure 3 in the paper, the ratio of human capital to total wealth H_t/W_t is increasing in response to the

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embodied shock ξ. This follows from our assumption that labor is perfectly mobile across capital vintages—a strong assumption for sure. As a result, existing households experience a reduction in the growth rate of their relative wealth, which given their preferences over relative consumption leads to a further increase in the stochastic discount factor. Put differently, the risk premium associated with the negative embodied shock becomes even more negative.

Though this channel is present in the model, we have some doubts it is quantitatively relevant. Specifically, our baseline model features limited participation in equity markets—a feature that is consistent with the data. In this case, the correct expression for the above expression is

$$\frac{dw_{n,t}}{w_{n,t}} = \delta^h \left(1 - \frac{\psi\, H_t}{V_t + G_t + \psi\, H_t}\right) dt - \frac{\lambda\eta\nu_t}{V_t + G_t + \psi\, H_t}\, dt + \psi\, \frac{\lambda\eta\nu_t}{V_t + G_t + \psi\, H_t}\, \mu_I^{-1} dN_{n,t}^I. \quad (2)$$

As we can see now, the effect of this omission is attenuated by a factor of $\psi < 1$, and ψ is quite small in our parametrization.

To assess the quantitative significance of our error, we recompute Table 1 in the paper at our point estimates of the parameters. As we can see in Table 1, the difference is quantitatively minor and certainly lies within the bounds of simulation noise. Unsurprisingly, the only set of moments that are affected are the ones pertaining to the value premium. As we can see, the table in the paper actually understates the value premium in the model relative to the corrected version. After correcting our error, the mean return on the value factor is 6.9% per year—compared to 6.5% in the data and 6.2% in the published version of the paper.

TABLE 1
CORRECTED VERSION

Moment	DATA	PAPER			CORRECTED		
		Mean	p5	p95	Mean	p5	p95
Consumption growth, mean	0.015	0.014	0.004	0.025	0.014	0.004	0.025
Consumption growth, volatility (short-run)	0.036	0.039	0.035	0.043	0.039	0.035	0.043
Consumption growth, volatility (long-run)	0.041	0.053	0.037	0.072	0.053	0.037	0.072
Shareholder consumption share, mean	0.429	0.464	0.428	0.487	0.466	0.433	0.488
Shareholder consumption growth, volatility	0.037	0.039	0.028	0.050	0.039	0.028	0.050
Investment-to-output ratio, mean	0.089	0.084	0.053	0.120	0.080	0.049	0.114
Investment-to-output ratio (log), volatility	0.305	0.269	0.156	0.453	0.274	0.159	0.459
Investment growth, volatility	0.130	0.104	0.089	0.122	0.106	0.090	0.123
Investment and consumption growth, correlation	0.472	0.352	0.193	0.511	0.356	0.196	0.516
Aggregate Innovation, volatility	0.370	0.339	0.214	0.534	0.343	0.217	0.541
Market portfolio, excess returns, mean	0.063	0.061	0.046	0.076	0.061	0.047	0.077
Market portfolio, excess returns, volatility	0.185	0.127	0.117	0.141	0.128	0.117	0.142
Risk-free rate, mean	0.020	0.020	0.015	0.026	0.024	0.019	0.030
Risk-free rate, volatility	0.007	0.007	0.003	0.013	0.007	0.003	0.013
Value factor, mean	0.065	**0.062**	0.025	0.091	**0.069**	0.030	0.101
Value factor, volatility	0.243	**0.135**	0.095	0.219	**0.143**	0.102	0.229
Value factor, CAPM alpha	0.040	**0.050**	0.008	0.081	**0.058**	0.021	0.092
Investment rate, IQR	0.175	0.169	0.130	0.203	0.169	0.130	0.203
Investment rate, persistence	0.223	0.278	0.074	0.447	0.278	0.074	0.447
Tobin Q, IQR	1.139	0.859	0.670	1.100	0.838	0.655	1.073
Tobin Q, persistence	0.889	0.950	0.931	0.964	0.948	0.931	0.962
Tobin Q and investment rate, correlation	0.237	0.165	0.130	0.236	0.167	0.131	0.237
Firm innovation, 90-50 range	0.581	0.601	0.536	0.652	0.610	0.543	0.664
Firm innovation, persistence	0.551	0.592	0.534	0.640	0.585	0.524	0.636
Profitability, IQR	0.902	0.958	0.871	1.177	0.958	0.871	1.176
Profitability, persistence	0.818	0.807	0.784	0.820	0.807	0.784	0.820

References

Kogan, Leonid, Dimitris Papanikolaou, and Noah Stoffman. 2020. "Left Behind: Creative Destruction, Inequality, and the Stock Market." *Journal of Political Economy* 128 (3).