Moderation By Extremes: Biases in Reward Perceptions Drive Compromise Effects in Financial Bundles

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We find that compromise effects are stronger when middle options bundle extreme items (e.g., half high-risk/high-reward and half low-risk/low reward stocks) rather than being composed entirely of moderate items (e.g., individual stocks moderate in both risk and reward), because the bundle-of-extremes is viewed as more potentially rewarding, but not riskier.

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EXTENDED ABSTRACT

“Moderation in all things, especially moderation.”

–Ralph Waldo Emerson

Consumers strongly prefer compromise options with medium attribute levels rather than extreme options that are strong on one attribute but not another (e.g., Simonson 1989; Simonson and Tversky 1992). In a typical demonstration, people trading off quality and price prefer a medium quality and medium price option over a high quality but high price option and a low quality but low price option (Simonson and Tversky 1992). Indeed, a recent meta-analysis of 142 experiments showed that this tendency appears is robust across many contexts, study designs, and participant types (Neumann, Böckenholt, and Sinha 2016).

However, middle options in bundles (the simultaneous choice of multiple items) can take more than one form. Herein, we focus on financial portfolios, in which people commonly trade-off attributes of risk and potential reward across multiple items (Kaufmann et al. 2013; Urminsky and Kivetz 2011) and in which encouraging attribute balance is important. Past research on the compromise effect might suggest that people prefer an option with medium risk and medium return (hereafter, “moderate RR”) to extreme options with low risk and low return (“low RR”) or high risk and high return (“high RR”).

Of note, however, the vast majority of compromise effect research has focused exclusively on choice when the middle option consists of a single item. By contrast, we propose that when consumers build portfolios, there is another way to arrive at a middle “balanced” option: a bundle of the extremes—50% low RR and 50% high RR items. Such a “bundle-of-extremes” option objectively has the same average risk and expected reward as a “bundle-of-pure-moderation” consisting of 100% moderate RR items. If people are simply averse to extremes and instead value average risk and average returns, then both options should be similarly valued, as they both offer moderate risk and moderate returns in the aggregate. Thus, the compromise effect should emerge in the same magnitude regardless of whether the middle bundle option is purely moderate or composed of extremes.

However, we propose that the option to select a bundle-of-extremes may lead to a stronger compromise effect than the option to select a bundle-of-pure-moderation. We argue that this will occur because the bundled context changes the way that people evaluate potential reward. Note that a bundle-of-extremes includes both high RR items and low RR items. We propose that people will anchor on the high rewards offered by the high RR items in the bundle-of-extremes, making it particularly attractive as a compromise option, without appropriately accounting for the high risk such potential rewards entail. There are several reasons for this prediction. First, such a pattern may reflect a self-positivity bias (Taylor et al. 2003), wherein consumers believe that positive outcomes will accrue to them, but that their risks of damage are lower than are others’. Second, it is well-established that a general optimism bias exists across many domains (Sharot 2011), which could lead individuals to focus on the upside potential of the reward rather than the downside of the risk involved. Third, people often exhibit motivated reasoning that biases their evaluations (Kunda 1990). Indeed, recent research suggests that aggregate evaluations are influenced less by unfavorable information, such as risk, than by favorable information, such as reward (Peyvakovich and Karmarkar 2016). Such a bias makes the bundle-of-extremes not only justifiable, allowing individuals to avoid an extreme choice either in terms of aggregate risk or reward, but attractive, in that it is perceived to offer higher reward.

Five studies supported our predictions: people were more likely to choose the middle option over the extremes (i.e., show stronger compromise effects) when the middle option consisted of a bundle-of-extremes than when it consisted of a bundle-of-pure-moderation, both with hypothetical stock portfolio allocations (Studies 1, 2, 5) and lottery ticket allocations involving actual monetary outcomes (Studies 3–4). This preference for a bundle-of-extremes over a bundle-of-pure-moderation was robust: it emerged both when only one middle option was available to each participant (Studies 1–4) and when both middle options were available (Study 5); when qualitative information was provided about the different options (Studies 1–3, 5) and when quantitative information was provided, explicitly equating the expected value of the options (Study 4). The results also emerged regardless of various participant characteristics (e.g., financial literacy, income, education).

Moreover, from a process perspective, variety seeking or naïve diversification did not explain this effect (Study 1). Rather, analysis of risk and potential reward perceptions showed that the two middle options were perceived as similarly risky but the bundle-of-extremes was viewed as more potentially rewarding; indeed, perceptions of the potential reward provided by the middle option mediated the effect of the different middle option offerings on choice (Studies 2–3). Given this perceptual bias, we also show that preference for a bundle-of-extremes over a bundle-of-pure-moderation is eliminated either when the bundle-of-pure-moderation middle option’s expected value is increased (Study 4) or when people view a side-by-side simulation of potential options over time (Study 5), which allowed consumers to see that the higher risk entailed in a bundle-of-extremes offsets the higher potential rewards that it might offer, leading to the same objective outcome as the bundle-of-pure-moderation.

From a theoretical perspective, this research identifies a new moderator leading to amplification of the compromise effect. Importantly, our work also suggests that people may perceive risk and reward differentially as a function of a portfolio’s variance. Accordingly, we introduce a new type of context effect—one in which the variance among aspects of a portfolio alters perceptions of the portfolio’s explicitly-stated values. This research also has practical implications. Given that balance is often encouraged in investments, our research sheds light on which type of balance (a bundle-of-extremes or a bundle-of-pure-moderation) is more attractive to people and why. Additionally, our research suggests a practical way to shift people from one type of balance to the other: observing the potential outcomes of a bundle-of-extremes shifts preference to a bundle-of-pure-moderation—seeing the consequences of high variance makes it less attractive than it is in prospect alone.
REFERENCES


