



Marketing Science Institute Working Paper Series 2011
Report No. 11-114

Situational Determinants of Unplanned Buying in Emerging and Developed Markets

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Report Summary

Expansion into emerging markets is a key objective for major packaged goods manufacturers and leading retailers, and unplanned buying is a key source of revenue for both. Because developed and emerging markets differ in many respects, it is natural to think that in-store decision making, and therefore unplanned buying, would differ across these contexts as well.

The authors provide an alternative view by undertaking a cross-country validation study of the situational determinants of unplanned buying. This study uses a novel panel diary data set, containing over 100,000 category purchases made on 22,000 shopping trips at 160 different retail chains taken by 3,700 households in four different countries—two emerging markets, Brazil and China—and two developed countries, The Netherlands and the United States. The main objective is to uncover robust empirical generalizations about the situational drivers of unplanned buying.

Households form goals on their shopping trips that vary in terms of their specificity, ranging from the precise and concrete (e.g., shopping for immediate consumption) to the abstract (e.g., shopping for the whole week or more). The authors find that when the shopping trip goal is more abstract the shopper does more unplanned buying, and that the magnitude of the increase in unplanned buying due to shopping trip goal abstraction is remarkably similar in all four countries. Trip-specific store choice reasons, such as choosing a store for low prices, also affect unplanned buying in similar ways across countries, although the magnitude of the effect varies. Finally, the authors suggest that unplanned buying may not be incremental from the perspective of the shopper—it may lead to inter-temporal cross-trip substitution by lowering spending on a subsequent trip.

The overall finding is that shoppers in developing and emerging markets behave in remarkably similar ways when they face common situational conditions. This message is at odds with a common view of “stark dissimilarities” across countries based on aggregate country-level statistics such as income growth and GDP per capita. The findings in this study suggest that more attention should be paid to obtaining insights from buying behavior on individual shopping trips rather than from aggregate country-level statistics. Manufacturers might infer that global shopper strategies are more scalable than previously thought and retailers might exploit cross-country shopping trip similarities by exporting their store formats that serve different shopping trip types.

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Acknowledgments

We thank seminar participants at the 2011 ACR Conference, Ross Rizley, Susan Keane, and anonymous Marketing Science Institute reviewers for their comments. We are very grateful to Claudio Colzani, Gilles Martin, Neil Munro, Sjoerd Schaafsma, and Mike Twitty for sharing knowledge and insights about shoppers and shopping. This research is generously supported by a grant from the Marketing Science Institute. Any errors, of course, are our own. All authors contributed equally.

*“In the last decades, our discipline has made tremendous progress ... However, our knowledge of marketing phenomena derives almost exclusively from research conducted in high income, industrialized countries.”*¹

Euromonitor International projects the worldwide market for packaged goods at more than \$2 trillion in 2011 and reports that for all major manufacturers and retailers “... expansion into emerging markets is increasingly a key objective ...” (p. 3). As Unilever CEO Paul Polman summarized in a recent interview, “Europe and the U.S. will be, for the next 10 years, low-growth territories. So, soon we will have 75% of our turnover in emerging markets” (*Reuters* 2011). Not all efforts to establish a relevant presence in emerging markets have been effective: considerable variation in market penetration creates a puzzle as to why some global manufacturers succeed while others fail (*Euromonitor International* 2011). Consequently, marketing scholars (e.g., Burgess and Steenkamp 2006) advocate the need for both managers and researchers to understand the extent to which consumer behavior insights from the developed world hold in emerging markets.

With this need in mind we undertake an international study of unplanned buying in retail stores—an important, but understudied phenomenon, even within the confines of marketing in developed economies (Bell, Corsten, and Knox 2011; Inman, Winer, and Ferraro 2009). Unplanned buying is important because it contributes directly to retailer profits and its well-documented prevalence drives “shopper marketing” budgets (*Advertising Age* 2008). The implications for profits and marketing budgets carry over to emerging markets as well. We aim to generalize findings on unplanned buying, as empirical generalizations are central to the advancement of marketing knowledge (Bass 1995; Lehmann 1996). Our specific objective is to

test whether situational drivers of unplanned buying found in the developed world generalize to emerging markets. Our data cover two developed countries, The Netherlands and the United States, and two emerging countries, Brazil and China. Aggregate data imply that retail markets in these four countries are quite different. For example, over the past five years, per-capita consumer spending on food grew 130% in Brazil, 94% in China, but just 22% in the Netherlands and 14% in the United States (*Euromonitor International* 2011).

Key findings from developed markets are that unplanned buying *increases* on trips when shoppers have abstract rather than concrete shopping trip goals (Bell, Corsten and Knox 2011; Lee and Ariely 2006) and on trips where shoppers choose a store for low prices, broad assortments or favorable promotions (Bell, Corsten, and Knox 2011). Unplanned buying *decreases* when shoppers are under time pressure (Park, Iyer, and Smith 1989) or “money” pressure (Beatty and Ferrell 1998). Many shoppers in developed markets create mental budgets that leave room for unplanned purchases and those with larger budgets make more (Stilley, Inman and Wakefield 2010a). Unplanned buying is also driven by shopper and category characteristics, as well as exposure to in-store marketing stimuli (Kollat and Willet 1969; Inman, Winer, Ferraro 2009). These insights from developed markets guide our approach to cross-country validation.

We define unplanned buying at the category level since shoppers make lists by writing down categories rather than brand names (Block and Morwitz 1999). Our main dependent variable is the total number of unplanned category purchases per trip. To enhance the validity of our findings, we: (1) compare results from two different models and four different countries, (2) use semi-parametric estimation methods that make few assumptions about the underlying data

generating process, and (3) include in each model specification a comprehensive set of control variables.

Our unit of analysis is the shopping trip rather than the shopper or country. In particular, our fixed-effects identification strategy uses repeat observations (shopping trips) from each shopper to control for time-invariant unobserved shopper and country-level factors that may also affect unplanned buying. This is in contrast to virtually all of the extant literature, which uses cross-sectional household and country-level data to investigate customer, country, or cultural determinants of unplanned buying (e.g., Kacen and Lee 2002; Zhang, Winterich, and Mittal 2010). Because our model is estimated on *within*-shopper variation in unplanned buying our findings are not confounded by omitted shopper or country factors. Furthermore, results derived from within-shopper variation in shopping trip circumstances are inherently actionable. Managers can generate more unplanned buying from existing customers and need not acquire new customers to achieve the same goal.

We make three new contributions to the literature. First, we establish the empirical generalizability of a prior finding that unplanned buying increases monotonically with the abstractness of the shopping trip goal. Because the magnitude of the effect is similar in Brazil, China, The Netherlands, and the United States—the lift in unplanned buying over the baseline rate when the shopping goal is most abstract ranges from 50-80%—this represents a case of “strong” empirical generalizability (Burgess and Steenkamp 2006). Second, trip-specific store-choice reasons held prior to shopping produce changes in unplanned buying that are partially consistent across countries. On trips where stores are chosen for “large assortments”, “low prices”, or “attractive promotions” there is more unplanned buying in all countries. These store and trip-specific choice reasons do, however, exhibit significant cross-country variation in the

percentage incremental lift, e.g., when a store in Brazil is chosen for a “large assortment” the lift in unplanned buying is more than 40%; in China the lift, while significant, is a modest 5%. Finally, trips taken under time pressure and money pressure yield changes in unplanned buying that are consistent in three out of four countries.² Consistent with Park, Iyer, and Smith (1989) trips taken under time pressure show less unplanned buying in two of three countries where this was measured (13 and 15% less in China and the U.S., respectively, but no effect in Brazil). In contrast to Beatty and Ferrell (1998), on trips where shoppers are under “money pressure” they do *more* unplanned buying in all three countries where this is measured. Further investigation of this seemingly counter-intuitive finding showed why: Shoppers reporting concerns about money on a given trip bought more products on promotion and did *less planned buying on the next trip*. Thus, trips taken under money pressure involved more opportunistic buying (Bucklin and Lattin 1991); this, in turn, led to inter-temporal category-level substitution between the current and subsequent shopping trips (Bucklin and Lattin 1992; Neslin, Henderson, and Quelch 1985).

We organize the rest of the paper as follows. Next, we review the literature, explain the previously documented findings, and motivate the need to validate them in an international setting. Then we describe our extensive diary panel data (over 100,000 category purchases recorded by 3,695 households visiting 160 stores on over 22,000 trips) and measurement of key constructs. After presenting the models we describe the main findings. The final section discusses implications for managers and researchers.

Background and Testable Findings

Our goal is to test whether situational drivers of unplanned buying identified from shopper behavior in the developed world operate in the same way in emerging markets. While research on unplanned buying outside the developed world is rather sparse there are a few international studies that examine cultural determinants of unplanned buying. We first review the findings from this literature, then distinguish the goals and approach of those studies with our own, and finally, summarize the extant findings that we subsequently test.

Cross-cultural and cross-country research

Previous research. Most research on unplanned buying examines behavior within a single country, often the United States. There are however a few studies that investigate cultural differences and employ Hofstede's cultural constructs, such as individualism-collectivism, as key variables. Kacen and Lee (2002) compare impulse buying³ in individualist countries, Australia and United States, to that in collectivist countries, Hong Kong, Malaysia, and Singapore. They measure cultural differences in two different ways. They classify individuals by country and self-concept responses and find that the relationship between the "impulsivity trait" and impulse buying is stronger in individualist cultures than it is in collectivist cultures. Lee and Kacen (2008) find that shoppers in collectivist cultures are more satisfied with an impulse purchase when another person is present at the time of purchase. Zhang, Winterich and Mittal (2010) argue that power distance belief (PDB), how much power disparity people are willing to tolerate, is positively related to restraint, and therefore, negatively related to impulse buying. In a study using cross-country survey data from 14 countries in the Asia-Pacific, they find a negative

relationship between the aggregate percentage of shoppers who “never plan” and PDB (using Hofstede’s country-level scores); individualism and per-capita gross national product serve as controls. In an experiment that primes PDB, they find high PDB lowers impulsive buying for “vice” but not “virtue” products, and that resource depletion moderates the effect of PDB on impulse buying.

This research. The aforementioned international studies of unplanned buying emphasize the role of cultural differences in moderating impulse buying. Shoppers from emerging markets (primarily Asia) have been found to engage in less impulse buying than shoppers from developed markets (primarily the United States), in part because they are more collectivistic and have a higher PDB. Thus, prior work typically investigates ways in which cultural differences moderate unplanned buying, i.e., how *shopper* behavior *differs* by country. Conversely, we investigate whether situational factors have common effects on unplanned buying during *shopping trips* taken under *similar* circumstances but in different countries. Our focus on potential commonalities follows from the principle that generalization is critical for enhancing marketing knowledge (Lehmann 1996). Thus, our research is cross-country, conducted at the trip level and focused on similarities; in contrast, virtually all other international studies of unplanned buying are cross-cultural, conducted at the individual-level, and focused on differences.⁴

Finally, since our data come from four countries that differ in terms of institutions, retail environment and consumer habits, a finding of similar effects for trip-level factors attests to the generalizability of the underlying phenomenon. In this sense, the goal of our paper is close to that of cross-country validation studies (e.g., Erdem, Zhao and Valenzuela 2004; Fischer, Völckner and Sattler 2010; Geyskens, Steenkamp, Scheer, and Kumar 1996).

Testable findings

As noted in the Introduction, prior research (based on shoppers from developed markets) identifies goal abstraction, store choice reasons, and time and money budget constraints as important drivers of unplanned buying. Research on unplanned buying has a long history dating back to a classic article by Kollat and Willet (1967) and we use this and related studies to identify additional variables affecting unplanned that are not of direct interest per se, but nevertheless can serve an important role as controls. Our unit of analysis is the shopping trip and although most of the literature theorizes and reports results at the level of the shopper, we provide distinct and complementary findings at the level of the shopping trip. Theory is largely silent on the likely effects of major institutional differences that exist between developed and emerging markets; hence, following Burgess and Steenkamp (2006) our starting premise is that the established market findings we articulate below will generalize across countries.

Finding 1: shopping goal abstraction. Households form goals on their shopping trips that vary in terms of their specificity, ranging from the precise and concrete (e.g., shopping for immediate consumption, shopping for a meal on the same day), to the relatively abstract (e.g., to fill up on weekly needs), to the most abstract (e.g., major trip, shopping for the whole week or more). Construal-level and mind-set theories distinguish deliberative and implemental mindsets, as well as precise and abstract goals (e.g., Gollwitzer 1999; Trope, Liberman, and Wakslak 2007) and predict that decision makers in “abstract” states are more flexible whereas those in more precise states are “closed off” to their environments. Consistent with this idea, Lee and Ariely (2006) find that buying behavior depends on shopping trip goals and recent empirical research (Bell, Corsten, and Knox 2011) based on data from one developed market finds a strong

effect of goal abstraction on unplanned buying (unplanned buying increases with the abstractness of the shopping goal, all else constant). Thus, we expect Finding 1 to hold in all four countries:

Finding 1: The amount of unplanned buying on a shopping trip increases monotonically with the abstractness of shopping trip goal.

Finding 2: trip-specific reasons for store selection. Shoppers choose stores on particular trips for a variety of reasons including breadth and depth of assortment (Briesch, Chintagunta, and Fox 2009), price image (Hansen and Singh 2009), location convenience (Huff 1964), and the possibility for one-stop shopping (Messinger and Narasimhan 1997). It turns out that these reasons, determined before the shopping visit, not only affect store choice (by definition) but also potentially affect unplanned buying as well (Bell, Corsten, and Knox 2011). Wider assortments can tempt shoppers to deviate from their plans and encourage those with loosely formed preferences to do more unplanned buying (Hoch, Bradlow, and Wansink 1999). On trips where the store is chosen for low prices, shoppers may feel normatively justified in engaging in unplanned buying (Rook and Fisher 1995). On trips where the store is chosen for attractive promotions, shoppers can use promotional savings on either planned or unplanned purchases to make more unplanned purchases (Heilman, Nakamoto, and Rao 2002; Stilley, Inman, and Wakefield 2010b). Shoppers sometimes cherry-pick from co-located stores (Fox and Hoch 2005) so on trips where a store is chosen because it is located next to other stores (and shoppers can visit other stores at the same time) there should be less unplanned buying. Conversely, there should be more unplanned buying when the store is chosen for one-stop shopping, because the choice of committing to one store may signal that the shopper has neither the time (Zeithaml 1985) nor mental resources (Bettman 1979) to plan for multiple store visits. Thus, we have findings 2A-2E below and expect them to hold in all four countries:

Finding 2A: There is *more* unplanned buying on shopping trips when the store is chosen for the breadth and depth of assortment.

Finding 2B: There is *more* unplanned buying on shopping trips when the store is chosen for low prices.

Finding 2C: There is *more* unplanned buying on shopping trips when the store is chosen for attractive promotions.

Finding 2D: There is *less* unplanned buying on shopping trips when the store is chosen because it is located close to other stores (because the shopper can visit other stores at the same time).

Finding 2E: There is *more* unplanned buying on shopping trips when the store is chosen because it offers the possibility for one-stop shopping.

We were able to collect data on the first four reasons (A-D) for all four countries but were unable to collect information on “one-stop shopping” for China. We were however able to collect data on one China-specific store choice reason—the decision to choose a store for its reputation for “food safety”. Perhaps unsurprisingly this issue has not been studied in developed markets (where it is taken as given) but has become very salient to shoppers in China and covered extensively in the U.S. media.⁵ Intuitively, we expect more unplanned buying on trips where the store is chosen for “food safety”.

Finding 3: time and money resources. When shoppers are under time pressure (Iyer 1989; Park, Iyer, and Smith 1989), resources for processing or taking advantage of in-store stimuli are more limited; hence, there is less unplanned buying. Studies that measure available budget (the opposite of money pressure) find that shoppers with larger budgets do more unplanned buying (Beatty and Ferrell 1989; Stilley, Inman and Wakefield 2010a). These findings are based on cross-sectional surveys, but budget constraints are potentially important situational drivers of unplanned buying, delivering effects over and above those due to shopper-level differences.

Hence, it remains to be seen whether unplanned buying changes when a given shopper indicates that they are under time or money pressure on a particular trip. Trip-level measures of time and money pressure were collected for all countries except for The Netherlands. For shopping trips taken in Brazil, China, and the United States we expect Findings 3A and 3B to hold⁶:

Finding 3A: There is *less* unplanned buying on shopping trips taken under time pressure.

Finding 3B: There is *less* unplanned buying on shopping trips taken under money pressure.

Control variables

We use an extensive set of trip-level controls to help rule out alternative explanations for the focal findings listed above. By definition, planned purchases are determined before the shopping trip and including the number of planned purchases into the model helps to control for ex-ante basket size. We also control for exposure to in-store marketing as it increases unplanned buying (Inman, Winer, and Ferraro 2009) and out-of-store marketing, which may lead to less unplanned buying because shoppers who take note of marketing information outside of the store are likely to engage in more planning (Bettman 1979). Travel time to the store and whether the store was visited as part of a multi-store trip—two proxies for the fixed costs of shopping (e.g., Tang, Bell, and Ho 2001)—are also in the specifications as are other situational factors such as whether the main shopper on the trip was female or shopping alone (Kahn and McAlister 1997; Inman, Winer, and Ferraro 2009). Finally, we control for time spent in store, which leads to more unplanned buying (Park, Iyer, and Smith 1989; Inman, Winer, and Ferraro 2009), but may also

be co-determined with unplanned buying. Similar to Bell, Corsten, and Knox (2011), we employ a model-based solution to address this problem and discuss it further in Models and Findings.

Data and Measures

Our diary panel data contain over 100,000 category purchases made on 21,980 shopping trips at 160 different retail chains taken by 3,692 households in four different countries—two emerging markets, Brazil and China—and two developed countries, The Netherlands and the United States. As noted earlier, a novel aspect of our study is that we examine drivers of unplanned buying in all countries at the shopping trip level and focus on generalizable findings. We first discuss our cross-country panel diary data and then the specific measures used to test F1-F3B outlined in Background and Testable Findings.

Data collection

Our data were collected on behalf of a multinational CPG manufacturer by a professional and global market research firm. Participating households in each country were paid for their cooperation and sampled so as to be representative of shoppers in their respective markets. Prior to data collection, a trained interviewer visited each household to explain the diary reporting procedure. The trip diary consists of 2-3 pages of items and households were instructed to fill it out after each supermarket shopping trip. For each category purchase on each shopping trip, the shopper indicated simply whether it was “planned in advance of the store visit” or “decided in store and purchased”. In addition, for every shopping trip, the shopper recorded answers to several other questions related to their shopping goals, reasons for store choice, and whether they

were under time or money pressure. Households were unaware that the data they provided would be used to study unplanned buying. The interviewer returned after two weeks to collect the diaries.

Summary statistics are given at the top of Table 1 (following References). Our panel fixed effects models require at least two shopping trips per household during each two-week observation period. The resulting sample is 285 households in Brazil, 1,317 in China, 1,652 in the U.S., and 438 in the Netherlands.⁷ The modal number of supermarket trips taken by each household is 4 in Brazil and the U.S., and 6 in China and the Netherlands.

Measures: findings 1-3 and dependent variables

Shopping goal abstraction (Finding 1). To test Finding 1 we elicit shopping trip goals directly. We use an internationally pre-tested set of goals—the list is mutually exclusive and collectively exhaustive list (question wording is provided in the Appendix). The goals range from the most concrete (“shopping for immediate consumption”, “shopping for a meal on the same day”), to the relatively abstract (“fill-in trip, shopping for daily essentials”) and finally the most abstract (“major trip, restocking the pantry”).⁸ “Fill-in trip” is the most prevalent shopping trip goal in all four countries (38% of all trips in Brazil; 32% in China; 23% in the US; 43% in The Netherlands).

Trip-specific reasons for store selection (Finding 2). We also elicit trip-specific store choice reasons directly. Multiple store choice reasons can be indicated on each trip. There are five possible store choice rationales that are common to all four countries, one collected everywhere but China, and one—“reputation for food safety”—that is collected in China only (see Table 2, following References).⁹

Time and money resources (Finding 3). On each trip shoppers are required to indicate whether they were under time or money pressure, specifically whether they paid attention to either resource while shopping. These measures were collected in all countries except The Netherlands. (Just as they could with reasons for selecting a store, shoppers were permitted to give multiple answers, i.e., they could check both resources as being constrained.)

Dependent variables. We measure the dependent variable as either the total count of unplanned category purchases on the shopping trip or the rate of unplanned buying, i.e., the count of unplanned category purchases divided by time spent in the store. We elaborate further in Models and Findings below.

Models and Findings

To ensure our findings are reliable and the inferences we draw are valid and robust, we: (1) use econometric models that have been proven to yield consistent estimates under very general conditions, (2) model unplanned buying as both a basket-level count and a rate per minute of time in the store, and (3) control for an extensive set of situational factors that may also drive unplanned buying. We first describe the models, followed by the results.

The fixed-effects Poisson model of unplanned buying

We observe $h = 1, 2, \dots, H$ households taking $t = 1, 2, \dots, T_h$ shopping trips. The total number of unplanned category purchases on each trip t for each household h , UP_{ht} , is an integer count variable. We model the expected total number of unplanned purchases as the product of a

household-specific baseline, α_h , and an exponential function of the main drivers of interest, x_{ht} , as well as a set of control variables, z_{ht} , including store and day-of-the-week fixed effects.

$$E[UP_{ht}|x_{ht}, z_{ht}, \alpha_h] = \alpha_h \exp(x'_{ht}\beta + z'_{ht}\gamma). \quad (1)$$

Although equation (1) is the conditional mean of the fixed-effects Poisson (FEP) model, Wooldridge (1999) also proves that the model estimates are consistent and asymptotically normal if only equation 1 holds, i.e., regardless of either the distribution of UP_{ht} or the presence of temporal dependence. In other words, the dependent variable can be under or over-dispersed and have an arbitrary lag structure. We use the robust standard errors that are developed in Wooldridge (1999) and shown to be valid under both heteroskedasticity and serial correlation.

Fixed effects α_h control for unobserved heterogeneity across shoppers and ensure that our effects are estimated within-shopper and on the basis of trip-to-trip variation. Compared to a random effects specification, the FEP does not suffer from bias due to either misspecification of the distribution of random effects or correlation between the shopper-level baseline α_h and the explanatory variables, x_{ht} and z_{ht} . The latter specification advantage is particularly important in our case as there are could be omitted household characteristics (e.g., “shopping enjoyment”) that are related both to independent variables of direct interest (i.e., the variables listed in Findings 1-3B) as well as situational control variables (e.g., “shopping alone”). Hausman tests reject the random effects specification in all four countries (Brazil: $\chi^2_{(35)} = 59.4, p = .006$; China: $\chi^2_{(66)} = 1066.2, p < .001$; U.S.: $\chi^2_{(25)} = 99.1, p < .001$; the Netherlands: $\chi^2_{(46)} = 157.1, p < .001$). Thus, the FEP is preferred both conceptually and empirically in our data.

Earlier we noted that we specify and estimate models for two different dependent variables, namely the integer count of unplanned purchases as well as the rate of unplanned buying per minute of time. In the FEP model, where the dependent variable is a count, time spent

in the store on the shopping trip enters the model as one variable in the set of control variables (z_{ht}) and its coefficient is freely estimated. While this approach is valid and has precedent in the literature (e.g., Bell, Corsten, and Knox 2011; Inman, Winer, and Ferraro 2009) an argument could also be made that time spent in the store on the shopping trip and unplanned buying on the trip may be co-determined. Thus, to allow for this possibility we also specify a Tobit formulation in which the dependent variable is the rate of unplanned buying.

A trimmed least squares Tobit model of unplanned buying

In this model the dependent variable is the total number of unplanned purchases on a trip divided by the time spent in the store (τ_{ht}). The use of count and rate models allows us to establish the robustness of the measured effects and also test whether the specific effects of particular variables on unplanned buying are driven by changes to the time spent in the store on the shopping trip. The rate of unplanned buying per unit time is continuous and censored at zero so we use a Tobit model to relate it to the main drivers of interest, x_{ht} , while adjusting for household-specific baseline effects, α_h , and trip-varying control variables, z_{ht} :

$$\frac{UP_{ht}}{\log(\tau_{ht})} = \max \{ \alpha_h + x'_{ht}\beta + z'_{ht}\gamma + \varepsilon_{ht}, 0 \}. \quad (2)$$

We follow Honoré (1992) and estimate equation (2) semi-parametrically, using the trimmed least squares Tobit (TLST) estimator, which is based on the assumption that the error terms (ε_{ht}) are independent and identically distributed within a given individual. Thus, we do not need to assume a parametric form for the errors or assume homoscedasticity across individual shoppers.

Findings 1-3

Tables 2 and 3 (following References) report the estimates for the FEP and TLST models. The magnitudes and levels of significance for the focal and control variables are remarkably consistent across models. This provides us with some assurance that the estimates are robust and valid. For ease of exposition, we mainly focus on the results from the FEP. The marginal effects in this model, or, the percentage change in the count implied by a coefficient β is $\exp(\beta) - 1$. Before proceeding to individual findings for specific variables we note that the fits for all FEP models are good. The R_{KL}^2 metric for non-linear models proposed by Cameron and Windmeijer (1997) and based on the Kullback-Leibler divergence, ranges from .54-.60 for all four countries.

Shopping goal abstraction (Finding 1). Earlier, we reported the finding that unplanned buying increases monotonically with the abstractness of the shopping trip goal. This implies that the most concrete goal, “immediate consumption,” sees the *least* amount of unplanned buying; the next most concrete goal, “same day consumption”, sees more unplanned buying than “immediate consumption”; “fill-in” trips see more unplanned buying than “same day consumption”; and “major trips” see the most unplanned buying. A joint test of this (monotonic) ordering of goal abstraction is highly significant in all four countries: Brazil ($\chi^2_{(3)} = 14.3, p = .002$), China ($\chi^2_{(3)} = 276.3, p < .001$), the U.S. ($\chi^2_{(3)} = 97.0, p < .001$) and The Netherlands ($\chi^2_{(3)} = 23.9, p < .001$). Reassuringly, the same findings hold for the TLST and pair-wise tests of two abstraction conditions at a time also show a similar pattern.

Of course it is possible that an abstract goal trip sees more unplanned buying because a shopper taking this kind of trip peruses more items and visits more aisles (Inman, Winer, and Ferraro 2009). Since our model controls for the number of planned purchases (a proxy for items perused) as well as the time spent in store (a proxy for aisles shopped) it is clear that the effect on

unplanned buying that is due to goal abstraction is over and above that due to either of these factors. Hence, both the FEP and TSLT results support Finding 1. Moreover, the implied effect sizes for the most abstract goal are remarkably similar across all four countries and we investigate the implications of this in Discussion and Conclusion.

Trip-specific reasons for store selection (Finding 2). On trips when the store is chosen for its “large assortment,” unplanned buying increases significantly in all four countries consistent with finding 2A. The percentage incremental lift ranges from 5% in China to 45% in Brazil. Similarly, on shopping trips where the store is chosen for “low prices” (Finding 2B) there is a significant but moderate 8% lift in unplanned buying in China and a significant and larger 18% lift in the US. On trips when the store is chosen for “attractive promotions” (Finding 2C), there is a 5% increase in unplanned buying in China and a 14% lift in the Netherlands, both of which are statistically significant. Consistent with Finding 2D there is 22% less unplanned buying in Brazil and 14% less in The Netherlands on trips where the store is chosen for “location convenience”. Finally, in The Netherlands, there is a positive and marginally significant effect of choosing a store for “one-stop shopping” on unplanned buying.

In sum, there is strong support for the positive impact of “large assortments” (Finding 2A), and modest support for the positive effects of “low prices” (Finding 2B) and “attractive promotions” (Finding 2C) and negative effects of location convenience (Finding 2D). Lastly, there is only limited support (from The Netherlands) for the positive effect of “one-stop shopping” convenience (Finding 2E). Interestingly, even though the strength of effect differs by store choice reason and by country within reason, all effects are consistent with our ex-ante predictions from prior literature in the sense that there are no instances of opposing-signed and significant effects for the same variable. Thus, our empirical findings on trip-specific store

choice reasons are consistent with the notion of “weak cross-national generalizability” in Burgess and Steenkamp (2006). Moreover, because all effects are estimated using *within*-shopper variation and after controlling for store fixed effects, these findings are not driven by either unobserved household-level or store-level differences.¹⁰

Time and money resources (Finding 3). In all countries except The Netherlands, shoppers were asked to report for every shopping trip whether they felt like they were under time or money pressure before they entered the store. In support of Finding 3A and consistent with Park, Iyer and Smith (1989), shopping trips taken under time pressure show less unplanned buying. Specifically, the estimates imply there is 15% less in China and 13% less in the U.S. Counter to expectations (Finding 3B) shopping trips taken under money pressure saw a significant *increase* in unplanned buying in all three countries where this was measured. The lift is 35% in Brazil, 15% in China and 14% in the U.S. One likely explanation for the discrepancy between these findings and those in prior work is that our unit of analysis is the shopping trip rather than the shopper. Prior work (Beatty and Ferrell 1998; Stilley, Inman and Wakefield 2010a) finds that *shoppers* under budget pressure do less unplanned buying (in comparison to shoppers who are not under budget pressure), which is intuitive. We find that for a *given shopper*, a trip taken under money pressure leads to more unplanned buying (relative to trips not taken under money pressure). We elaborate on this finding and provide an explanation for it in the Discussion and Conclusion. In summary, cross-country results are consistent in supporting Finding 3A (time pressure leads to less unplanned buying) and refuting Finding 3B (money pressure also leads to less unplanned buying).

Control variables. Control variables are included in the model to help rule out alternative explanations for the effects of interest just discussed. For these variables we check whether or

not the signs are either consistent with well-established results or plausible (for new variables) and comment briefly on key findings. As expected, exposure to in-store marketing significantly increases unplanned buying in all four countries. The lift ranges from 10% (China) to 42% (The Netherlands), and when the four countries are considered the average effect size of 27% is very close to that reported in Inman, Winer, and Ferraro (2009, p. 27). Shopping with others increases need recognition and leads to longer trips and more unplanned buying (Kahn and McAlister 1997; Inman, Winer, and Ferraro 2009) so trips taken alone should see less unplanned buying. We find this to be true in all four countries. Consistent with prior findings (e.g., Inman, Winer, and Ferraro 2009), trips in which the primary shopper is female show more unplanned buying; specifically, 42% more in The Netherlands and 20% more in the US.

Trips occurring second or later on a multi-store trip see significantly less unplanned buying The Netherlands (14% less) and the US (9% less) according to the TLST specification, but not according to the FEP model. Recall that the TLST model accounts for co-determination of time and unplanned buying so the fact that it detects an effect of trip order where the FEP does not suggests that shoppers make fewer unplanned purchases on stores visited second or later on multi-store trips because they spend less time there.

Discussion and Conclusion

Lehmann (1996, p.3) states simply and elegantly that: “the purpose of academic research is to produce generalizations.” To advance knowledge, he continues, researchers need to identify a “repeatable phenomenon” and explain why it occurs. In this paper we attempt to do both. Previous research using shoppers from developed markets suggests that unplanned buying is

driven by the level of abstraction of the shopping goal, trip-specific store choice reasons and time and money pressure during the shopping trip. Despite the apparent differences in institutions, retail environments and consumer spending in Brazil, China, the United States, and The Netherlands, the estimated effects of the aforementioned factors are similar in magnitude and directionally identical for all four countries. Thus, we have evidence that trip-level drivers of unplanned buying are generalizable. Next, we summarize the key findings and then discuss the implications for managers and researchers.

Key findings

Figure 1 (following References) shows that for all four countries the average expected percentage change in unplanned category purchases as a function of the abstractness of the shopping trip goal. Goal-setting (Gollwitzer 1999) and construal-level (Trope, Liberman, and Wakslak 2007) theories imply that when shoppers have abstract goals they are more open to their environments. In our setting, this should manifest as more unplanned buying on trips with abstract goals relative to trips with concrete goals. Indeed, we find that for all four countries unplanned buying increases monotonically with the abstractness of the shopping trip goal. Major trips that have the most abstract goal show the greatest percentage lift in unplanned buying and the effect size across countries is remarkably similar—49% increase in Brazil, 51% in China, 77% in The Netherlands and 57% in the US. In contrast, shopping trips with the most concrete goal, shopping for immediate consumption, are associated with no change in unplanned buying in Brazil and The Netherlands, and modest reductions in China (16% less unplanned buying) and the U.S. (13% less).

Since our model is estimated on within-shopper variation our findings cannot be driven by cross-sectional phenomena, such as “abstract-goal shoppers (a shopper segment) do more unplanned buying.” Furthermore, since we control for trip-level exposure to many other factors, including in-store and out-of-store marketing, the findings are unlikely to be attributable to omitted variables. Interestingly, for all four countries the effect of an abstract goal relative to a concrete goal is significantly larger than the effect of exposure to in-store marketing during the shopping trip. We think this is important because exposure to in-store marketing has long been established as a key driver of unplanned buying. Hence, this comparison further attests to the critical role of shopping trip goals, formed early along the path to purchase, as drivers of unplanned buying. Finally, we use shopping receipt data to calculate the effect of changes in unplanned buying on retailer revenues. The average trip is R\$ 38.63 in Brazil, ¥ 53.71 in China, \$40.73 in the U.S., and €21.49 in The Netherlands. On abstract-goal trips, the additional unplanned buying that occurs contributes an additional 8% (R\$ 3.27) in Brazil, 20% (¥ 10.52) in China, 16% (\$6.46) the U.S., and 17% (€3.58) in The Netherlands.

Trip-specific reasons for selecting a store also drive unplanned buying but their effects are smaller than the effect due to shopping goal abstraction. However, even though the magnitude of the effect differs by reason and country, the signs and significance of the estimates are consistent with our predictions. In other words, there are no significant and opposite sign effects across countries for any trip-specific store choice reason. On trips where the store is chosen for its large assortment, low prices, or attractive promotions unplanned buying increases significantly in all four countries. Conversely, there is a decrease on trips where a store is chosen for its proximity to other stores. Again, our findings are not confounded with unobserved day-of-week or store chain differences as these are controlled for directly.

Consistent with previous studies (e.g., Park, Iyer, and Smith 1989), trips taken under time pressure see less unplanned buying. Conversely, we find *more* unplanned buying on trips taken under money pressure. The evidence is strong: Except for The Netherlands, where the question was not asked, the effect is positive and significant, ranging from 14% more unplanned buying in China to 35% more in Brazil. To further examine the reason for this finding, we estimate two additional models for each country. We first estimate the standard specification (equation 1) but define the dependent variable as the total number of unplanned product categories bought on promotion, instead of total number of unplanned product categories bought. Second, we use equation 1 to regress the total number of planned categories purchased on the standard specification of variables but include one additional term that captures whether or not the *previous* shopping trip was taken under money pressure. From this, we find that on trips where shoppers report money concerns, they bought *more* unplanned categories on promotion on *that* trip and bought *fewer* planned categories on the *next* trip. This is consistent with opportunistic buying (Bucklin and Lattin 1991) where shoppers take advantage of promotions by borrowing from future trips (Bucklin and Lattin 1992; Neslin, Henderson, and Quelch 1985). This suggests money-pressure-driven unplanned buying may not be incremental from the perspective of the shopper; rather, it involves cross-trip substitution. In this sense, our finding from a *trip*-level view of unplanned buying complements that of Stilley, Inman and Wakefield (2010b). They examine purchasing *within* the shopping trip and across shoppers and find that savings from promoted but unplanned items may not increase the total amount spent if shoppers have anticipated making unplanned purchases when setting their budgets.

Implications for managers

The findings just summarized offer new implications for global marketing managers. We comment briefly on four: (1) focus on similarities, not differences, (2) exploit marketing economies of scale, (3) leverage trip-based retail formats, and (4) recognize that “incremental” is a matter of perspective.

Focus on similarities, not differences. Business leaders and the popular press rely on country-level statistics to emphasize differences between emerging and developed markets (recall the quote from Unilever CEO Paul Polman in the Introduction). While it is true, for example, that aggregate consumer spending per capita is growing more rapidly in emerging economies like Brazil and China than in developed countries like The Netherlands and the U.S. an emphasis on differences denies the possibility of deeper potential commonalities. We find that the *shopping trips* of consumers in all four countries exhibit similar levels of change in unplanned buying given similar levels of shopping-goal abstraction, similar trip-specific store choice reasons, and similar levels of time and money pressure. Thus, an apparent and interesting paradox emerging from our findings is the following: Shoppers in vastly different countries behave in remarkably similar ways when under common *situational* conditions. This suggests that managers need to look beyond aggregate statistics that document large differences from one context to the next and seek a deeper understanding of situational drivers of consumer behavior. Specifically, the unit of analysis need not always be *who* is shopping but rather, the conditions under which a *shopping trip* is taken. In fact, recent evidence indicates that manufacturers, retailers and consulting firms have begun to collect data on shopping trip motivations and other situational drivers of consumer behavior, typically for segmentation purposes (Fox and Sethuraman 2006).

Exploit marketing economies of scale. One of the key decisions that branded manufacturers face in international expansion is the extent to which they should tailor their business models to local conditions. Country executives often stress the local nature of their business to obtain local shopper research budgets to overcome the “not-invented-here” syndrome (Huston and Sukkab 2006). In addition, when expanding into emerging markets, companies that exploit economies of scale by leaving their domestic business models unchanged are often castigated for not starting from scratch (Eyring, Johnson, and Nair 2011; Ghemawat 2003). Our discovery of trip-level similarities suggests that some global shopper strategies may indeed be scalable, and that in line with our first implication, too much attention is paid to aggregate statistics rather than model-based findings. In fact, there are some signs that leading multinational firms are acting in accordance with this implication. Procter & Gamble CMO Marc Pritchard notes that for many P&G brands “purpose now transcends geography”, i.e., a focus on commonality is becoming the more acceptable in some shopper marketing contexts (Manners 2011).¹¹

Leverage trip-based retail formats. In developed markets several retailers have designed product packaging and in-store displays to take advantage of specific shopping motivations (Unilever *Trip Management* 2005). Our results suggest that shopping trip goals are potentially a stable within-shopper segmentation criterion. Indeed, to attract the *same* shopper on different shopping occasions and thereby mitigate the problem that shoppers switch store allegiance on different trips, many international retailers now model their retail store formats according to trip types. Tesco, a UK based retailer, and Ahold, a Dutch retailer, for instance, define retail formats in line with our four trip types ranging from “Extra” (Tesco) or “XL” (Ahold) for the major shopping trip to “Express” (Tesco) or “To-Go” (Ahold) for daily essentials and consumption on

the spot or later at home. Tesco has successfully expanded this segmentation from its UK home market to countries disparate as China, Poland, Thailand and Turkey. Just recently, Ahold added the “To Go” format in the US to complement its already present traditional Giant Super Food Store and Supermarket formats.

Recognize that “incremental” is a matter of perspective. Unplanned buying is thought to be incremental (*Advertising Age* 2008; Underhill 2000) and in the last several years branded manufacturers have increased in-store marketing budgets at a compound annual growth rate of 20% (*Grocery Manufacturers Association* 2007) partly in an effort to stimulate it. Our analysis shows that unplanned buying on a trip is associated with less planned buying on a subsequent trip. This suggests inter-temporal category-level substitution, rather than strictly incremental purchasing (see also Bucklin and Lattin 1992); hence, it may be a mistake to view unplanned buying as incremental *from the perspective of the shopper*. If adjacent trips are taken at different retailers, unplanned buying could certainly be incremental from the point of the view of the retailer. (We do not examine brand-level purchasing in this study but there is no doubt that unplanned buying could be incremental from the perspective of the manufacturer as well).

Limitations and implications for researchers

By investigating situational (trip-level) drivers of unplanned buying in four distinct countries, we have sought to generalize our empirical findings. Future work could certainly expand the set of countries considered. Moreover, one could also extend the focus to incorporate shopper, country or cultural determinants of unplanned buying (in so doing however, one must be careful to avoid omitted variable bias). Second, our analysis is conducted on product categories but there may be important differences in the drivers of brand-level unplanned buying.

The distinction between category-level and brand-level unplanned buying is potentially of great interest to major CPG manufacturers. Third, we uncovered some evidence that unplanned buying is perhaps not fully incremental to the shopper, but rather, under some conditions, leads to inter-temporal category purchase substitution across shopping trips. Since most shoppers in most countries shop in multiple stores, there is however a strong likelihood that unplanned buying is incremental to retailers and potentially to manufacturers as well. Thus, more work is needed to establish whether and under what conditions unplanned buying can be considered incremental and the implications for manufacturer and retail competition. We intend to pursue these and related issues in future research.

Appendix

Questions used to derive focal measures

Measure	Question
Finding 1: Shopping Trip Goal	What was the type of trip taken? (one answer)
Immediate Consumption; To Use Straight Away	To use straight away; things forgotten, immediate needs.
Same Day; Shopping for Meals on the Same Day	Shopping for meal consumed on same day or weekend
Fill-in Trip; Daily Essentials, Top-up Shopping	Daily essentials; top up shopping
Major Trip; Weekly or Less Often	Big, weekly or less than weekly grocery shop
Finding 2: Store Choice Goals	What are the reasons for visiting this store now? (more than one answer)
A: "Large Assortment"	Large/wide range of products
B: "Low Prices"	Low Prices
C: "Attractive Promotions and Special Offers"	Attractive promotions and special offers
D: "I Can Visit Other Stores at the Same Time"	I can visit other stores at the same time
E: "One-Stop Shopping"	Everything I need in one place
"Food Safety"	Reputation for food safety
Finding 3: Time and Money Resources.	During this shopping trip, ... (more than one answer)
Time Pressure	I paid attention to the time
Money Pressure	I paid attention to prices

¹ Burgess and Steenkamp (2006, p. 337), “Marketing Renaissance: How Research in Emerging Markets Advances Marketing Science and Practice.”

² These measures were collected in only three out of four countries (all but The Netherlands). The data collection effort was extensive and conducted by a professional research firm under the guidance of a large multinational packaged goods manufacturer. More details are provided in Data and Measures.

³ Definitions of impulse buying vary from study to study. Though early research used unplanned and impulse interchangeably (Kollatt and Willett 1967), more recent studies define impulse buying as a subset of unplanned buying that occurs after experiencing a sudden, unreflective urge to buy; it does not include forgotten needs (Beatty and Ferrell 1998; Rook 1987; Vohs and Faber 2007).

⁴ Practically, this means that we examine effects of variables that vary over trips (e.g., shopping objectives) rather than shoppers (e.g., impulsivity, PBD).

⁵ See, for example, “In China, Fear of Fake Eggs and ‘Recycled’ Buns” (*New York Times*, June 6, 2011).

⁶ Evidence counter to Findings 3A and 3B in our study could also be driven by the fact that our unit of analysis is the trip rather than the shopper. We discuss this in more detail in Discussion and Conclusion.

⁷ This excludes the 446 households (2% of total trips) who take only one trip over the observation period.

⁸ The base case is “no specific trip reported.”

⁹ Country managers had some say over the inclusion of country-specific store choice reasons; hence “reputation for food safety” is collected as a reason in China only.

¹⁰ Emerging markets face issues that are taken for granted in developed markets. A store’s reputation for food safety is one such issue and this was measured for shopping trips taken in China. We find that this trip-specific store choice reason delivers a modest (5%) and statistically significant effect on unplanned buying in China.

¹¹ Our results also suggest the possibility that trip-level marketing strategies created in emerging markets can extend to developed countries. This is consistent with the general advice given to Western companies to treat emerging markets as natural laboratories and reap the benefits of “innovation blowback” (Brown and Hagel 2005).

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Table 1
Survey and Model Variable Statistics

Variables	Brazil	China	US	NL
Survey Overview				
Total Number of Households	285	1,317	1,652	438
Total Number of Shopping Trips	1,482	9,748	7,762	2,988
Total Number of Category Purchases	12,889	33,444	52,799	19,112
Modal Number of Shopping Trips per HH	4	6	4	6
Number of Identified Retail Chains	12	37	88	23
Date Range	3-4/2007	1-4/2006	4-8/2004	6-7/2006
Model Variables^a				
Finding 1: Shopping Goal Abstraction^b				
Immediate Consumption; To Use Straight Away	.196	.182	.192	.111
Same Day; Shopping for Meals on the Same Day	.150	.078	.084	.149
Fill-in Trip; Daily Essentials, Top-up Shopping	.375	.315	.225	.431
Major Trip; Weekly or Less Often	.150	.106	.203	.236
Finding 2: Trip-Specific Reasons for Selecting Store^c				
A: "Large Assortment"	.123	.300	.272	.219
B: "Low Prices"	.223	.142	.401	.241
C: "Attractive Promotions and Special Offers"	.144	.426	.195	.296
D: "I Can Visit Other Stores at the Same Time"	.264	.156	.400	.364
E: "One-Stop Shopping"	.190		.080	.313
F: "Food Safety		.363		
Finding 3: Time and Money Resources^c				
Need to Pay Attention to Time	.843	.714	.324	
Need to Pay Attention to Money	.312	.041	.721	

Table 1 (Continued)
Model Variables and Summary Statistics

Variables	Brazil	China	US	NL
Control Variables				
Special Offers Seen at the Shelf or on Display Away from Shelf	.426	.424	.465	.435
Special Offers Seen in the Newspaper or Leaflet Delivered to Home	.227	.201	.295	.201
Shopping Alone	.584	.583	.638	.688
Primary Shopper Female			.828	.814
Visiting Second or Later in a Multi-Store Trip	.203	.043	.121	.182
Average Travel Time to Store (log minutes)	2.564	2.437	2.140	1.984
Average Total Number of Planned Category Purchases (log units)	1.377	.950	1.481	1.282
Average Time Spent in Store (log minutes)	3.110	3.177	3.207	2.672
Dependent Variable				
Average Number of Unplanned Category Purchases	.949	1.361	1.892	1.384
Std. Dev. Number of Unplanned Category Purchases	1.624	1.670	2.673	1.927
Min. Number of Unplanned Category Purchases	0	0	0	0
Max. Number of Unplanned Category Purchases	10	14	20	10

Notes

^a All model variables aside from the Control Variables “Travel Time to Store”, “Total Number of Planned Category Purchases”, and “Time Spent Shopping” are dummy variables. We report average fraction chosen for the dummy variables and averages for the continuous variables.

^b The Shopping Goal Abstraction variables (Finding 1) are mutually exclusive and collectively exhaustive, i.e., the shopper chooses only *one* overall shopping trip goal per shopping trip.

^c Conversely, the shopper can indicate agreement with any number of Trip-Specific Reasons for Selecting a Store, Time and Money Resources, and can indicate agreement with any number of the Control Variables.

Table 2
Parameter Estimates from the Fixed Effect Poisson Model

Dependent Variable: UP_{ht}	Brazil	China	US	NL
Finding 1: Shopping Goal Abstraction				
β_1 , Immediate Consumption; To Use Straight Away	.022	-.171 ^{***}	-.145 ^{**}	.001
β_2 , Same Day; Shopping for Meals on the Same Day	-.235	-.024	.047	.254 [*]
β_3 , Fill-in Trip; Daily Essentials, Top-up Shopping	.154	-.045	.288 ^{***}	.297 [*]
β_4 , Major Trip; Weekly or Less Often	.412 [*]	.401 ^{***}	.451 ^{***}	.571 ^{***}
Finding 2: Trip-Specific Reasons for Selecting Store				
β_5 , A: "Large Assortment"	.375 [*]	.052 [*]	.187 ⁺	.188 ^{**}
β_6 , B: "Low Prices"	-.086	.078 [*]	.166 ^{***}	.102
β_7 , C: "Attractive Promotions and Special Offers"	.215	.052 ^{**}	.000	.132 [*]
β_8 , D: "I Can Visit Other Stores at the Same Time"	-.243 [*]	-.030	.010	-.148 [*]
β_9 , E: "One-Stop Shopping"	.018		.068	.113 ⁺
β_{10} , "Food Safety"		.053 [*]		
Finding 3: Time and Money Resources				
β_{11} , Need to Pay Attention to Time	.012	-.162 ^{***}	-.136 ^{***}	
β_{12} , Need to Pay Attention to Prices	.300 [*]	.126 [*]	.138 ^{**}	
Control Variables^a				
γ_1 , Special Offers Seen at the Shelf or on Display Away from Shelf	.274 [*]	.098 ^{***}	.201 ^{***}	.352 ^{***}
γ_2 , Special Offers Seen in the Newspaper or Leaflet Delivered to Home	-.007	-.035	-.091 [*]	.039
γ_3 , Shopping Alone	-.351 ^{**}	-.232 ^{***}	-.184 ^{***}	-.118 ⁺
γ_4 , Primary Shopper Female			.186 [*]	.346 ^{**}
γ_5 , Visiting Second or Later in Multi-Store Trip	-.262 ⁺	-.049	-.083	-.049

Table 2 (Continued)

Parameter Estimates from Fixed Effect Poisson Model

Dependent Variable: UP_{ht}	Brazil	China	US	NL
Control Variables				
γ_6 , Travel Time to Store (log minutes)	.131	.062**	-.028	-.041
γ_7 , Total Number of Planned Category Purchases (in log units)	-.006	-.453***	-.369***	-.502***
γ_8 , Time Spent in Store (log minutes)	.543***	.560***	.862***	.831***
Full Model R^2^b	.572	.553	.595	.538
Log Likelihood	-1,150	-9,714	-8,413	-2,953
Shopping Trips	1,482	9,748	7,762	2,988
Households	285	1,317	1,652	438

Notes: *** $p < .001$; ** $p < .01$; * $p < .05$; + $p < .10$

^a Store chain and day-of week fixed effects are suppressed to save space (available upon request).

^b R^2 is calculated using the method proposed by Cameron and Windmeijer (1997) for nonlinear models.

Table 3

Parameter Estimates from the Trimmed Least Squares Tobit Model

Dependent Variable: $\frac{UP_{ht}}{\log(\tau_{ht})}$	Brazil	China	US	NL
Finding 1: Shopping Goal Abstraction				
β_1 , Immediate Consumption; To Use Straight Away	-0.037	-.111 ^{***}	-.248 ^{***}	-.162
β_2 , Same Day; Shopping for Meals on the Same Day	-.111	-.043	-.032	.199
β_3 , Fill-in Trip; Daily Essentials, Top-up Shopping	.076	-.032 ⁺	.285 ^{***}	.243 [*]
β_4 , Major Trip; Weekly or Less Often	.264 [*]	.358 ^{***}	.613 ^{***}	.699 ^{***}
Finding 2: Trip-Specific Reasons for Selecting Store				
β_5 , A: “Large Assortment”	.245 [*]	.035 [*]	.297 ^{**}	.170 ^{**}
β_6 , B: “Low Prices”	-.041	.057 [*]	.197 ^{***}	.166 [*]
β_7 , C: “Attractive Promotions and Special Offers”	.201 [*]	.039 ^{**}	.080 ⁺	.116 ⁺
β_8 , D: “I Can Visit Other Stores at the Same Time”	-.117	-.006	.019	-.106 ⁺
β_9 , E: “One-Stop Shopping”	-.006		.065	.135 [*]
β_{10} , “Food Safety		.032 ⁺		
Finding 3: Time and Money Resources				
β_{11} , Need to Pay Attention to Time	-.008	-.132 ^{***}	-.221 ^{***}	
β_{12} , Need to Pay Attention to Prices	.210 ^{**}	.066 ⁺	.184 ^{***}	
Control Variables^a				
γ_1 , Special Offers Seen at the Shelf or on Display Away from Shelf	.191 ^{**}	.074 ^{***}	.255 ^{***}	.355 ^{***}
γ_2 , Special Offers Seen in the Newspaper or Leaflet Delivered to Home	-.044	-.018	-.085 [*]	.075
γ_3 , Shopping Alone	-.194 ^{**}	-.180 ^{***}	-.232 ^{***}	-.227 ^{***}
γ_4 , Primary Shopper Female			.205 ^{***}	.296 ^{**}
γ_5 , Visiting Second or Later in Multi-Store Trip	-.154 ⁺	-.026	-.093 [*]	-.152 [*]

Table 3 (Continued)

Parameter Estimates from the Trimmed Least Squares Tobit Model

Dependent Variable: $\frac{UP_{ht}}{\log(\tau_{ht})}$	Brazil	China	US	NL
Control Variables				
γ_6 , Travel Time to Store (log minutes)	.095	.059***	.024	.015
γ_7 , Total Number of Planned Category Purchases (in log units)	.065	-.279***	-.259***	-.424***
Observations	1,482	9,748	7,762	2,988
Households	285	1,317	1,652	438

Notes: *** $p < .001$; ** $p < .01$; * $p < .05$; + $p < .10$

^a Store and day-of-week fixed effects are suppressed to save space (available upon request).

Figure 1

Expected Percentage Change in Unplanned Buying as a Function of the Overall Shopping Trip Goal (All Other Variables Constant)

