PLANNING FOR OUR FUTURE:

The Contribution of Simplifying Models to Conceptualizing Budgets and Taxes

A FrameWorks Research Report

Prepared by the FrameWorks Institute

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INTRODUCTION

The research presented in this report was undertaken by the FrameWorks Institute and sponsored by the John D. and Catherine T. MacArthur Foundation. What we describe here is part of a larger FrameWorks investigation exploring the ways that Americans think about the connections between public budgets and taxes. This particular report examines how the introduction of a metaphorical or "simplifying" model that explains how budgets and taxes work can help counter dominant but unproductive patterns of reasoning that the public currently employs in thinking about these topics.

Simplifying models are metaphorically-based frame cues that change the fundamental ways that people understand what issues are "about." They are, therefore, a useful ingredient in making shifts in how people process and interpret information.[1]

Following FrameWorks' multi-disciplinary approach of Strategic Frame Analysis™, we pay attention to how Americans' understanding of budgets and taxes is shaped by a shared set of assumptions and understandings — what anthropologists call "cultural models."[2] These shared assumptions are what allow individuals to navigate their social worlds. However, cultural models can also play a more restrictive role, directing available interpretations and making some messages easier to think than others.

Informed by this understanding, FrameWorks research suggests that the cultural models that Americans apply to thinking about budgets and taxes create a cultural antipathy toward taxes and their inevitability and result in a totalizing critique of local, state, and national government. Now solidified in the public mind, these ideas restrict the ability of ordinary Americans to understand how taxes actually work and the role that public budgets play, which in turn restricts the vocabulary of public policies that need to be developed for a range of public problems. These shared assumptions also restrict the public's ability to bring discussions of budgets and their design into discussions about the well-being of communities, where the focus of the discourse is mainly about raising or cutting taxes — not on shared public priorities and how they will be paid for.

The fact that the issue of budgets and taxes is so ideologically loaded and encrusted motivated a shift in the way that FrameWorks deployed its simplifying models and the work it asked this element of the frame to accomplish.

On other issues, FrameWorks has tackled what it identifies as a "gap" between what experts know and believe and what the lay public knows and believes, gaps that often prevent people from grasping the causes and solutions to complex social problems. In most of our work, simplifying models are meant to bridge these gaps by offering "simplified" metaphorical ways for lay publics to understand complex, expert ideas. Early qualitative research on the public's understanding of budgets and taxes revealed a key shortcoming in issue understanding among lay publics: they did not see the connection between budgets and taxes. Simplifying models would need, then, to generate this connection in order to improve understanding of budgets and taxes. In other words, while early research did find that some of the same broad cultural models are used to understand both concepts, most Americans lack a well-developed model to relate, integrate and think productively about the two concepts together.[3] We also faced a slightly different challenge. In addition to revealing that a way to connect these concepts was needed,

research also revealed a need for 1) a way to think beyond or outside of dominant cultural models (e.g., wasteful and broken government); 2) ways to think productively about old tensions (e.g., taxes vs. spending); and 3) ways to encourage individuals to conceive of their own roles as political actors (agency).

The research described in the following report shows that one simplifying model, based on the metaphor of a *Forward Exchange*, was clearly more successful than 10 other candidate models with respect to the objectives mentioned above. By Forward Exchange, we mean the idea that the exchange of tax money for public goods is distributed in time, aided by the organizing and planning nature of budgets. (A full version of our model appears below.) This simplifying model can play an important role in improving understanding of budgets and taxes by defusing the expectation that the public goods that taxes pay for should all be immediately visible as well as countering other unhelpful dominant cultural models.

 It is important to note, however, that even the best simplifying models cannot accomplish everything that needs to be done in reframing a complex social issue. Other frame elements — Values, Messengers, Visuals, Tone, Causal Chains, etc. — need to be tasked with addressing other routine misdirections in thinking. Toward that end, this report is one in a series of explorations designed to identify effective elements of a new frame for budgets and taxes.

What is a simplifying model?

A simplifying model can be thought of as a bridge between expert and public understandings — a metaphor that presents a concept in a way that the public can readily deploy to make sense of new information. More specifically, FrameWorks defines a simplifying model as a research-driven, empirically tested metaphor that captures and distills a concept by using an explanatory framework that fits in with the public's existing patterns of assumptions and understandings (cultural models). [4] A simplifying model renders a complex problem as a simpler analogy or metaphor. By pulling out salient features of the problem and mapping them in terms of more concrete, immediate, everyday objects, events, or processes, the model helps people organize information into a clear picture in their heads, thereby enhancing their understanding and potentially making them more effective interlocutors, consumers of media, and, ultimately, citizens.

On the basis of this theoretical perspective, FrameWorks has built a robust, reliable sense of what an effective simplifying model looks like and how it behaves.[5] An effective simplifying model:

> 1) improves *understanding* of how a given phenomenon works (in this case how public budgets and taxes are connected);
>
> 2) creates more *robust, detailed and coherent discussions* of the target issue;
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> 3) is able to be *applied* to thinking about how to solve or improve a situation;
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> 4) *inoculates* against the dominant unproductive default patterns of thinking normally applied to understand the issue;
>
> 5) is highly *communicable* — moving and spreading easily between individuals without

major breakdowns in key concepts; and finally,

6) is *self-correcting*. In other words, when a breakdown in thinking does occur, people using the model can redeploy it in its original form, where it is able, once again, to clarify key aspects of the issue.

What must a simplifying model do for budgets and taxes?

Employing the results of earlier qualitative research, cultural models theory and an understanding of the communications challenges surrounding the public discourse around budgets and taxes in the U.S., the FrameWorks research team conceived of the work that the simplifying model specifically for budgets and taxes must do as the following:

1) The metaphor has to be understandable within the context of budgets and taxes.

2) The simplifying model has to enable people to see a connection between budgets and taxes.

3) The simplifying model has to enable people to think about how taxes and public goods and services are not immediate exchanges, a pay-as-you-go arrangement, and that budgets spread out the cost of public goods in time. In the realm of taxes and budgets, any short-term thinking is undesirable because it leads people to resist spending for public goods for which they cannot see immediate benefits; thus, it preferences certain types of spending and disadvantages others. Thus, we said that the simplifying model has to enable a *time shift*.

4) The simplifying model has to allow people to see themselves as part of a solution and keep them from feeling as if they are outside of the situation, which they perceive as hopeless. The model also has to allay the feeling that the situation is too vast and dire to be worth an intervention. Such thinking is undesirable because it supports a crisis perspective.[6] Thus, we said that the simplifying model has to enable an *agency shift*.

5) The simplifying model has to get people to think about taxes as shared responsibilities rather than purely individual concerns — instead of "I" pay for things that "I" benefit from, "we" pay for the things "we" benefit from. When people want to pay for things that only they benefit from, this erodes the sustainability of a society in which resources are shared for the benefit of an abstract — but very real — community. We said that the simplifying model has to enable a *collective shift*.

6) It has to improve support for progressive attitudes and policies related to budgeting and taxation.

Following the executive summary below, we briefly discuss the methodological process by which FrameWorks' researchers identified, developed and empirically tested the power of the Forward Exchange simplifying model in broadening the public discourse about budgets and taxes. We then examine the findings from this research, and conclude with specific recommendations for how Forward Exchange can be applied in communication efforts. Those who want to read more specifics on research methodology are invited to read the Appendix.

EXECUTIVE SUMMARY

FrameWorks research emerged with a highly successful simplifying model — Forward Exchange — which proved more effective in both qualitative and quantitative testing than a set of other linguistically appropriate metaphors. Its success was determined by its performance on a number of standards devised by FrameWorks to test communicability — getting people to think beyond a variety of dominant cultural models, to imagine their role as citizens and taxpayers, and to develop a sense that their participation in budgeting and taxation is a function of their collective identity as part of a society or their "shared fate" with others. The text of the final model that emerged is as follows:

> Some people say that public budgets and taxes occur in a system of forward exchange. Here's the idea. Communities make a list of the priorities that they should pay for now and also forward in time in order to get public goods whose importance everyone agrees on. These are things like schools and colleges, health and safety agencies, highways, and other things. In the future, people will have access to these public goods. The public goods a community has today weren't only paid for by taxes its members just paid or are about to pay. They were also paid for in the past, by taxes that were budgeted *then* to meet the community's needs *now*. And they were budgeted in the past by experts who could successfully see into the future. So, we can say that a good public budget is one that plans for the future and for the unexpected. And we can say that good taxes are the ones that allow a community to pay for the public goods and services for which it has planned.

A number of findings with respect to the effects of this Simplifying Model are reported in this paper:

- The success of Forward Exchange is underscored by the fact that the metaphor was proven to be understandable; it enabled people to connect budgets and taxes; it facilitated a time shift from immediate considerations to long-term thinking; it provoked an agency shift and a collective shift; and it also increased support for progressive attitudes about budgeting and taxation. These requirements for the model emerged from previous FrameWorks research as those most critical to overcoming existing patterns of thinking.

- The model was able to overcome the common tendency among FrameWorks' informants to express frustration when talking about taxes and experience confusion in perceiving the purpose of paying taxes. When given Forward Exchange, participants in Persistence Trials consistently acknowledged that taxes have a purpose: They pay for goods and services that are used by citizens.

- Whereas FrameWorks' informants had been disinclined to see that taxes pay for public goods and to recognize what public goods taxes pay for when provided with other frames on the topic, talking about Forward Exchange moved people to consider and articulate a wide array of public goods and infrastructure.

- Using the Future Exchange simplifying model, it was possible to push people to see that, if they extended their view far enough into the future, previously invisible or intangible

benefits of a certain public good would eventually be "seen." This represented a significant advantage over the "taxes in — benefits out" immediacy of the dominant ways of thinking. Viewing budgets and taxes through the lens of Future Exchange, participants shifted their focus from the immediate terms of exchange (I pay this and want that now) to a more long-term perspective (I pay this now so that we can plan and have stuff in the future).

- While the Consumerist model (notions of "getting what you pay for" as applied to thinking of priorities and collective goods, for example) continued to be a challenge to the simplifying model, Forward Exchange was perceived by FrameWorks' informants as "something different," i.e., a reason to take a new look at the issue.

- The model proved generative in that people were able to use the idea creatively and colloquially to explain a number their own views about the purposes of budgets and taxes and the relationship between them.

- The model was readily applied to examples across local, state and national budgetary and taxation systems, making it a versatile and efficient tool for communicators.

- Despite these important advantages, default thinking about government can easily cue up distracting and unproductive discussions unless the simplifying model is carefully honed to avoid issues associated with government's size and bureaucratic nature and, rather, to focus on the expertise required of those who must budget for the future.

METHODS: HOW SIMPLIFYING MODELS ARE IDENTIFIED AND TESTED

Phase 1. Mapping the Gaps — FrameWorks' research team conducted interviews with members of the general public and drew on our previous research on how Americans think about government, including FrameWorks' involvement with the *Choosing the Nation's Fiscal Future*, a 2010 report from the National Academies of Science on the ramifications of the increasing debt. This helps us see "gaps" in public understanding.

Phase 2. Designing Simplifying Models We analyzed transcripts of the interviews conducted in Phase 1 to generate a list of metaphor categories that capture salient elements of the expert understanding, using approaches from cognitive linguistics and psycholinguistics.

Phase 3. Testing Simplifying Models We tested the candidate simplifying models in three research formats:
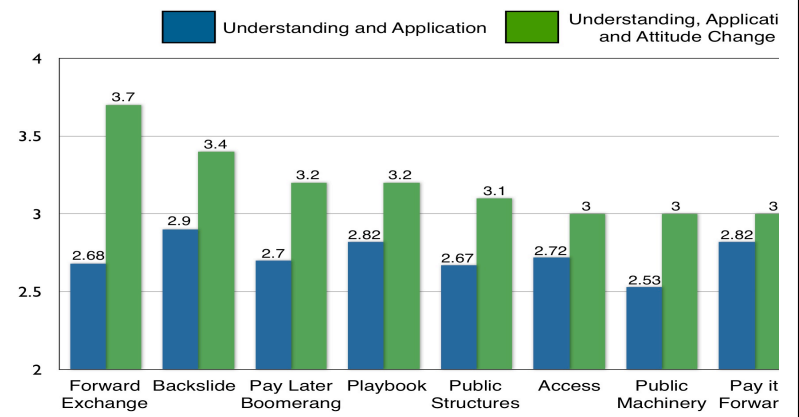
1

On-the-Street interviews help us examine which specific elements of the models are functioning well and which are less successful at shifting perspectives.

2

FrameWorks designed a large-scale quantitative survey in order to demonstrate the efficacy of simplifying models with statistical accuracy.

Figure 1: Quantitative Experiment Results

Legend: Understanding and Application (blue); Understanding, Application and Attitude Change (green)

Model	Understanding and Application	Understanding, Application and Attitude Change
Forward Exchange	2.68	3.7
Backslide	2.9	3.4
Pay Later Boomerang	2.7	3.2
Playbook	2.82	3.2
Public Structures	2.67	3.1
Access	2.72	3
Public Machinery	2.53	3
Pay it Forward	2.82	3

3

The two top-scoring simplifying models, Forward Exchange and Backslide Effect, were brought to Persistence Trials in Baltimore, Md., and Atlanta, Ga. Through transferring the model among pairs of people, we examined how people react to and use it, how well it travels and holds up as it is passed between individuals, what parts of it are "sticky" and how it appears to

Final Model

FORWARD EXCHANGE

RESULTS: AN EFFECTIVE SIMPLIFYING MODEL FOR BUDGETS AND TAXES

Employing the research process outlined above (and detailed in the Appendix), the FrameWorks research team identified, refined and empirically tested six broad simplifying model categories and a total of eleven iterations of those categories. One of these simplifying models, which provided a specific conceptualization of time, emerged as most effective in combating dominant models and introducing new ways for people to think about the connection between budgets and taxes: *Forward Exchange*.

The iteration of this model used in testing (but which was later modified and appears in its modified version at the end of this document) was as follows:

> Some people say that public budgets and taxes make up a system of forward exchange. Here's the idea. Budgets give us a schedule for paying taxes forward in time for public goods whose importance we all agree on. These are things like schools and colleges, health and safety agencies, highways, and other things. In the future, people will have access to these public goods. The public goods we have today weren't paid for by taxes we just paid or are about to pay. They were paid for in the past, by taxes that were budgeted *then* to meet our needs *now*. So, we can say that a good public budget is one that plans for the future and for the unexpected. And we can say that good taxes are the ones that allow us to pay for public goods and services that we've planned for.

Below, we review the development of this model through the iterative research process. We discuss the general effects of the model, the empirical evidence that demonstrates its explanatory power and the specific strategic advantages it confers when employed in communications on budgets and taxes.

What the Forward Exchange Model Contributes to Public Understanding

The Forward Exchange model that emerged from the "circulation" category of metaphors satisfied our criteria for the work that a successful simplifying model should do in general, and that a simplifying model about budgets and taxes in specific should do. That is, the metaphor was understandable; the model enabled people to connect budgets and taxes; the model enabled a time shift, an agency shift and a collective shift; it also increased support for progressive attitudes about budgeting and taxation.

Forward Exchange did share features with two other candidate models that emerged as unsuccessful through the research process.[7] Therefore, the success of Forward Exchange was somewhat unexpected and demonstrated the utility of using multiple methods to test and refine simplifying models. The specific findings in support of Forward Exchange at each of the three stages of the research process are described here.

1. Evidence from On-the-Street Interviews. Early in the research process, during the on-the-street interviews, it became evident that the time shift (the different perspective of time) that emerged as the defining feature of Forward Exchange was creating more robust and productive

thinking about budgets and taxes. In these interviews, participants shifted their focus from the immediate terms of exchange (I pay this and want that now) to a more long-term perspective (I pay this now so that we can plan and have stuff in the future). Using Forward Exchange, participants more readily adopted this long-term outlook, which they found synonymous with "planning for the future," "using resources wisely and responsibly," "budgeting for the future," and the like.

In addition, Forward Exchange also served to concretize the principle of paying now for services and security for the future. Using the Forward Exchange model, participants demonstrated their appreciation for the fact that taxes meet current and immediate needs, an understanding that our earlier research showed that Americans have little problem realizing. However, exposure to the Forward Exchange model also structured and supported the more nuanced understanding that taxes and the budgets they fund serve to pool and allocate resources to projects and prosperity that extend into the future. This understanding was absent in earlier open-ended exploratory research.[8] Participants often described this future focus as "public savings." What is important here is that this understanding supplants the consumerist type of thinking that was so powerful and pervasive in earlier interviews. When people thought within the consumerist perspective, they imagined that taxes should be things that a person pays to get something *immediately* and *in exactly equivalent value* to that paid in. In circumventing this consumerist thinking, the Forward Exchange model charted a progression, flexible in value and over time, from prioritization to planning to implementation to return on investment. By contrast, in unprimed discussions, participants focused rather narrowly on the importance of meeting here-and-now needs.

Finally, Forward Exchange was generative — participants were able to use the idea to arrive at their own explanations of the purposes of budgets and taxes and the relationship between them, demonstrating the model was effective in shifting and expanding previous understandings and patterns of thinking.

2. Evidence from the Quantitative Experiment. The quantitative experiment provided statistical evidence for the effectiveness of Forward Exchange. On the survey, the questions that measured understanding, application and shifts were meant to test the strength of the simplifying model against choices that represented dominant cultural models. Given the prominence of these dominant understandings in both public thinking and the pervasive public discourse about budgets and taxes, inoculating against and shifting off of these cultural models was a high bar against which to judge the effectiveness of the simplifying models, which relied on one brief exposure for their effects. Because of the attractiveness and dominance of positions like cutting taxes to balance this year's budget (which was one option respondents were offered), correct responses varied between 50 to 80 percent across questions. This recalcitrance is reflective of this specific issue, as well as a function of the more general entrenched nature of these dominant patterns in American culture. Nonetheless, and as reported earlier, the model of Forward Exchange significantly shifted people toward more progressive attitudes and support for policies regarding budgeting and taxation.

Despite the power of the dominant cultural models in public thinking, the final tabulations demonstrated that people understood the model of the Forward Exchange. Respondents were able to apply the model to the topic of budgets and taxes; the model connected budgets and taxes in people's thinking; participants could correctly choose a paraphrase of the model; and the model enabled them to think of themselves as actors in discussions about budgets and taxes — in other words, they did not perceive that the budget and tax situation amounted to an unfixable crisis or was the sole territory of politicians.

3. Evidence from Persistence Trials. We look for discussions in Persistence Trials to demonstrate that participants can apply the simplifying model, that it inoculates against dominant cultural models, that it self-corrects, and that it is communicable. In these terms, the specific advantages of the model that emerged from this stage of testing are as follows:

Application. Taken individually, budgets and taxes are abstract processes that are not easily connected to each other in people's thinking. This constrains the ordinary American's ability to think productively about budgetary and taxation issues. In applying this simplifying model in thinking and talking about budgets and taxes, participants in the Persistence Trials were able to:

- use the model to incorporate and analyze a range of local examples in connecting and discussing the social implications of budget and tax systems.

- talk about changes that could and should be made to these systems in terms of the model.

- criticize regressive budgetary/taxation decisions using the model.

- argue against opinions of budgets and taxes that were motivated by dominant cultural models.

- answer questions about budgets and taxes in terms of the model.

- repeat the core of the model over multiple tellings.

More specifically, the Persistence Trials showed that the Forward Exchange idea was applied in thinking about the connection between budgets and taxes in the following way:

"The time shift": Budgets allocate taxes to the future. The cultural model interviews that were conducted at the outset of FrameWorks' investigation into public thinking on budgets and taxes showed that long-term spending is "hard to think," given that people often operate according to an immediate "inputs must equal outputs" conception. When presented with Forward Exchange, however, participants in the Persistence Trials readily talked about the future and the need to use budgets and taxes as a way to conceptualize and prepare for this future. Without prompting, they rephrased the model as "forward thinking," "planning," "forecasting," and other similar phrases. In short, the time shift facilitated by the Forward Exchange model allowed participants to see that the evidence of outputs need not be immediate (as they tended to think without the benefits of the simplifying model) and can be delayed into future.

One way that Forward Exchange worked to shift participants' time perspective was in allowing participants to see the relationship of the present to the future. This was a pervasive effect observed in the Persistence Trials. Participants were able to appreciate that the concept of

"future" has two potential meanings, both of which are important in shifting the time perspective. That is, the concept of "future" can refer both to a time that follows a certain immediate moment as well as a more distant, unknowable time. A person can reasonably anticipate seeing the future in its first sense, but not so in its second. So saying that the benefits of paying taxes now will accrue at some point in the future is tantamount to acknowledging that other people whom one does not know will enjoy the benefits of public goods one has paid for now. The following example from the Persistence Trials shows the significance of these two meanings of "future."

> *Participant C: I look at it as kinda like "goal setting" and what you're gonna do. If you have a personal budget, you've got short-range and intermediate or long-range goals, too, and you've got to plan for that future and things you're gonna need like … maybe a college fund for your kid or retirement. If you don't plan on it, you're gonna be surprised. It's kind of the idea that you're gonna take this forward exchange and understand why you need the taxes and a budget for the future, too.*

> *§§§§*

> *Participant A: Why would this not benefit me now, and why would we not see this immediate impact going on when we do these budgets?*

> *Participant B: Because, like it says, it's "forward exchange," so you're thinking about what's going to happen as opposed to what's happening today. It's to keep you out of that — that "present" thinking. Your present thought pattern of, okay today the road has a — a hole in it, but with the growth that we're experiencing here, how are we gonna get to the point where we have more roads for us to travel on so you won't — so the road that's traveled won't be as heavily traveled if we — we plan for the next generation.*

> *Participant A: Yeah.*

> *Participant B: So it'll — it'll justify … — the end will justify the means.*

The second way that Forward Exchange shifted time was to link currently used public goods and services to budgeting decisions made in the past. The following are examples where participants were able to talk about public goods as the product of past budgeting and taxes, even as they were superficially disagreeing with the idea.

> *Moderator: Why not? [Responding to participant's saying that a new system of tax planning won't work.]*

> *Participant D: It won't help us save money down the road. [Chuckling.] I mean we drive on highways and walk down the street that don't have cracks on them and we never really think like, you know, this is nice because someone paid for it. You know what I mean?*

> *Participant E: Yeah well, you paid for it.*

> *Participant D: We did, right. Well, if it was budgeted properly someone down the line paid for it.*

On the whole, people found it easier to project themselves into the future than to appreciate how past decisions led to the current state of affairs. The ease with which participants applied the simplifying model to talk about how decisions now have future effects and thus the need to plan for the future now is highly promising in expanding thinking about budgets and taxes and shifting attention away from short-term, individualist thinking.

Inoculation. Apart from application, the most significant challenge for Forward Exchange was to inoculate against dominant ideas about budgets and taxes. By "inoculation," we mean that an effective simplifying model deactivates the default ways of understanding the issue by supplanting these understandings with new perspectives. Wielding the simplifying model, the dominant model becomes less robust in the conversation. Relevant dominant models related to budgets and taxes were outlined in FrameWorks' cultural models report on budgets and taxes.[9] The dominant models that Forward Exchange countered included:

1. *Dominant model: Taxes have no purpose.* In unprimed conversations, FrameWorks' research has shown that people readily express frustration when talking about taxes and have trouble seeing the purpose of paying taxes. When given Forward Exchange, all participants in Persistence Trials acknowledged that taxes have a purpose: They pay for goods and services that are used by citizens. Participants also gave a number of examples of public goods or services that they felt "fit" the Forward Exchange model: Medicare, Social Security, employment insurance, infrastructure (such as roads and school buildings) and hospitals. Then, after thinking about the model, three participants admitted that an even wider range of public goods and services fell into the model of time, including the Federal Emergency Management Agency and children's health care.

2. *Dominant model: Public services are a given*. In cultural models interviews, informants were uninclined to see that taxes pay for public goods and to recognize what public goods taxes pay for. Talking about Forward Exchange, however, people referred to a wide array of public goods and infrastructure. For example, in the on-the-street interviews, one participant said:

> *If we don't have taxes, then we won't be able to have our public schools, our public libraries, and the purpose of budgets and taxes is to be able to forwardly exchange into the future so that the plan you have can be executed.*

> African-American Woman, Kansas

3. *Dominant model: "There should be a one-to-one relationship between tax payments and public goods and services."* In previous research, FrameWorks has encountered this idea that people apply their relationships, experiences, and expectations as consumers to other aspects of social life; we call this the Consumerist model. In our budget and taxes work, early models did not counter (and sometimes exacerbated) this Consumerist thinking (notions of "getting what you pay for" as applied to thinking of budgets and taxes, for example). We had hypothesized that the word "exchange" in the title of the model may trigger consumerist thinking, but this did not occur in a way that was provoked by the model per se.

When consumerist thinking did appear, it was countered just as often by the sense that Forward Exchange was "something different." We note that the people who articulated this notion successfully using the model were likely politically inclined to hold such beliefs, but we did

observe them wielding ideas from Forward Exchange when their fellow participants expressed political beliefs that were contrary to theirs.

While the appearance of the Consumerist model is usually taken as evidence of the power of a dominant cultural model (and therefore the weakness of a simplifying model), when participants employed consumerist thinking in the context of discussions of Forward Exchange they did so in relatively productive ways — thinking creatively about new ways to *pay tax money* rather than, as would normally be the case when the consumerist model is applied, coming up with ways to *not pay taxes*. Rather than criticizing the existence of taxes or insisting that cutting taxes was the only way to balance public budgets, some participants invented new ways to give money to the government.

4. *Dominant model: "When I pay taxes, the benefits should accrue to me (or to people like me)."* Another dominant pattern of thinking documented in cultural models interviews was what FrameWorks calls the Individualist model — the idea that the costs and benefits experienced by individuals are what really matter and that one individual's interests are inherently at odds with those of other individuals. In terms of budgets and taxes, this dominant model would manifest itself as the view that taxes are bad when the benefits of public goods are enjoyed by people who do not pay into the system or who do not pay in as much as others and are therefore morally inferior and undeserving of the benefits of this system. We tested the ability of simplifying model candidates to inoculate against this dominant model; we called this work "the collective shift." In the Persistence Trials, there were certainly expressions of the Individualist model, as would be expected, *but* they were often successfully countered or inoculated against with elements of the Forward Exchange model. Using the model, it was possible to push people to see that if they extended far enough into the future, previously invisible or intangible benefits of a certain public good would eventually be "seen."

> *Participant C: Yep, a friend of mine's got a son and a daughter that are in medical school, and they're doing their residency at Grady [a county hospital, which the participant had just complained that his taxes paid for because it was a hospital that served a lower socio-economic group, and that he thought himself unlikely to ever use], and they've got quite some stories to tell. But obviously they're just there doing their training, and, to me, that's my taxes. I mean in a way it's a form of an education, and it's my taxpayer's money that's training them and some day they'll be out somewhere in probably some hospital somewhere and with some little tiny bit of my taxpayer's dollars they got an education ... [it's] seeing your tax dollars actually at work. Then so is education, I mean, if you got a kid that's half way to high school and he grows up to be governor of Georgia someday, well basically, I can say, well, it was my money that got him to be governor in a roundabout way.*
>
> *Moderator: Uh huh.*
>
> *Participant C: I would think of that as being forward exchange, too.*

Self-Correction. Persistence Trials also showed that Forward Exchange is able to self-correct, though this is not its greatest strength. "Self-correction" refers to a simplifying model's ability to snap back to its initial form following a deterioration or morph of the concept in public discussion. An important measure of a model's strength, this occurs when one feature of the

metaphor that had been forgotten or has dropped out of conversation reasserts itself in discourse. When communicated in the public sphere, breakdowns in the model are likely, even expected, and it is therefore important that a concept have enough internal coherence to recover from such devolutions — to encourage people to arrive at key entailments that have been communicated in partial or inaccurate form. Below is one example that illustrates how, in the Forward Exchange model, one participant's overt focus on taxes and accountability is corrected when another participant brings up budgets:

> *Participant D: How do those monies become accountable for those roads?*
>
> *Participant F: That's where the budget comes in. See, right now, when that budget is prepared, we have a budget and they present it to you, but by knowing what the purpose of the budget and your taxes are, it gives you a clear understanding of where it's supposed to be going. See, you would know that the budget, that the budget and the taxes that we're presenting to you today is for the future and it'll outline what the premise is, of what we're trying to do, as opposed to, "this is the budget, it's $69 billion, here's your taxes, it's 28 percent. Pay it and that's it."*

Communicability. The central ideas of the Forward Exchange model were sticky across the pairs of participants in the Persistence Trials — they were "communicable." That is, people were successful at preserving and relating the sense that money was being allocated for the future, where it would be exchanged for things that strengthen the future; that money was being allocated according to a plan; and that the money was not languishing somewhere (and, additionally hadn't been stolen). However, the fact that the exchange was for *all* public goods and services was lost in several instances, which we believe was due to the idiosyncrasies of the Persistence Trial method and would not be relevant to advocates.

Avoiding unproductive recessive models. An additional strength of a simplifying model is its ability to circumvent recessive models, which can be thought of as connecting to patterned ways of understanding that are *available* to the public to think about an issue, but assumptions that individuals don't *readily* or *automatically* employ in understanding the issue. The cultural models report identified two recessive models: "household budgets" and "government officials as experts." To read about the "government officials as experts" idea, see the subsection "government as undifferentiated body" in the section immediately below. As for "household budgets," we found that the model came up minimally in Forward Exchange sessions, often as people were confirming the aspect of the model that concerns planning for the future. But they did not otherwise make extended comparisons between household budgets and public budgets.

Refinements. An additional function of the Persistence Trials is to gather data that allows empirically-based final refinements of the models — refinements designed to ensure that the final form of the simplifying model is maximally effective. Below is a description of the ways in which data from these sessions suggested additional refinements to the Forward Exchange simplifying model and the ways that the model was refined to account for these findings.

Time. The model of time presented by Forward Exchange was so productive that it often demonstrated a tendency to overgenerate thinking along the following lines:

1. People sometimes expressed the notion that Forward Exchange amounted to a way of allocating *budgetary surpluses* into the future.

2. A related misunderstanding was the notion that budgets *should* aim to create surpluses, which would be the source of money saved for the future.

This overgenerating was somewhat problematic because it led to the conclusion that the country needs to *save* now for the future, but not necessarily that *spending* now is also required to prepare for the future. These problems were addressed in the final iteration by more clearly defining "exchange."

Government as undifferentiated body. One dominant model that Americans hold about government was identified in the cultural models interviews as "Government as an undifferentiated and complex body presided over by a few elite individuals."[10] Often these individuals presiding over government are depicted as corrupt and self-serving. In the Persistence Trials, participants often defaulted to this assumption when they discussed where budgets come from, where taxes go and why both systems are "broken": because the people in charge of preparing and managing budgets do what is perceived to be a poor job.

Thus, Forward Exchange was not entirely successful at inoculating against this dominant model. However, this was rectified by cuing another recessive model identified in the cultural models report: "A second recessive model for thinking about budgets … was that government officials are actually *very qualified* to set and manage budgets. Three informants used this model periodically in place of the more dominant assumption that those few elites at the head of the government are corrupt and make decisions based on self-interest."[11] The final iteration of Forward Exchange was refined to more deliberately cue this recessive model by mentioning "experts who could successfully see into the future." In the new iteration, the agent who taxes, budgets and spends is clearly marked as "communities," not "government" or the decidedly vaguer "we."

Accountability/visibility. A final problem with the Forward Exchange model in the Persistence Trial setting was that participants expressed some anxiety about the lack of transparency and accountability in where tax money would go and whether or not it would actually be spent on the purposes for which it had been budgeted. Reassuring people in this regard is outside the purview of the Forward Exchange model and highlights the need for advocates to include clear solutions in their messaging about budget and tax policy. This remains a frame challenge that future research could explore very specifically.

CONCLUSION: APPLYING THE SIMPLIFYING MODEL

Of the simplifying models that were tested, Forward Exchange was the most productive in getting people to think beyond a variety of dominant cultural models, to imagine their role as citizens and taxpayers, and to develop a sense that their participation in budgeting and taxation is a function of their collective identity as part of a society or their "shared fate" with others.

Incorporating changes suggested by all of the phases of the simplifying models research process, the final model is as follows:

Some people say that public budgets and taxes occur in a system of forward exchange. Here's the idea. Communities make a list of the priorities that they should pay for now and also forward in time in order to get public goods whose importance everyone agrees on. These are things like schools and colleges, health and safety agencies, highways, and other things. In the future, people will have access to these public goods. The public goods a community has today weren't only paid for by taxes its members just paid or are about to pay. They were also paid for in the past, by taxes that were budgeted *then* to meet the community's needs *now*. And they were budgeted in the past by experts who could successfully see into the future. So, we can say that a good public budget is one that plans for the future and for the unexpected. And we can say that good taxes are the ones that allow a community to pay for the public goods and services for which it has planned.

We conclude with two notes of caution in the application of the Forward Exchange simplifying model to budgets and taxes communications. First, the simplifying model suggested here was tested both for its underlying concept and with respect to the linguistic execution of its concept. Therefore, the emerging model represents both an effective metaphorical *concept* and an effective linguistic *packaging* or expression of this concept. For these reasons, while a certain latitude and flexibility in use and application are to be expected, even encouraged, the specific concept and language that appear in the report have empirically demonstrated effectiveness. We do not therefore claim to know the results or effectiveness of using alternative but related concepts or dramatically different linguistic executions of the Forward Exchange concept. In short, advocates should include the following basic elements in using the simplifying model:

1. The exchange of paying taxes for services/goods isn't immediate but distributed in time — some services/goods are accessed now, while others are available in the future.

2. This exchange has always happened this way — the public goods we currently access are proof of it.

3. Budgets are the instruments of planning for and peering into the future, in order to make sure that the allocation goes smoothly. What makes budgets good is their ability to plan for the future and adjust to exigencies — to make sure that we pay according to our needs, not according to how much we make. To say that a certain fiscal situation is untenable, one might say that "it's not in the forward exchange," or "the forward exchange can't handle it."

4. The problems faced by communities are best solved by re-examining budgets and having conversations about shared priorities.

5. The public goods paid for by taxes are collectively available — again, not immediately, but in time. For example, though it may appear that taxes paid to a county hospital one would never directly use are a waste, it looks worthwhile when one realizes that people trained at that hospital use their training in other facilities.

6. Trying to stop the forward exchange by cutting taxes now can leave beneficiaries in the future behind, both in the sense that costs will be higher and that meeting higher needs will be unaffordable.

7. In Persistence Trial discussions, people used examples across local, state and national budgetary and taxation systems, which leads us to conclude that another strength of the model is the ease of scaling it.

Some additional notes about using Forward Exchange:

1. In Persistence Trials, people sometimes had the impression that this was a new *model of budgeting and taxation*, not a *new conceptual framework for thinking* about the existing budget and tax system, perhaps because they associated the exercises, the recruiting, and the setting with marketing, and therefore with "new products." Those who use Forward Exchange in other contexts or settings, and especially in conjunction with other frame elements, may not experience this, but it would be worth explaining at the outset.

2. The examples of the things that advocates say that taxes pay for should not be solely "services," because these are most apt to provoke the consumerist thinking that the simplifying model was intended to guide people's thinking away from in the first place. Throughout each testing phase, we used the phrase "public goods" as an umbrella term for services, institutions, and infrastructure. People seemed to readily understand "public goods" when it was used. If advocates choose to provide examples of public goods, they should avoid incidentals, catastrophes, or "rainy day funds." Forward exchange is constructed to talk about public goods that can reasonably be prepared for (e.g., schools bridges, fuel assistance programs), not unforeseen circumstances (e.g., snowstorms).

3. One synonym for "forward exchange" that arose in Persistence Trials was "paying forward." We tested a model with a similar label, "pay it forward," but didn't use it because in the quantitative phase, it moved attribution of responsibility toward individual, not public solutions.

About The FrameWorks Institute

The FrameWorks Institute is an independent nonprofit organization founded in 1999 to advance science-based communications research and practice. The Institute conducts original, multi-method research to identify the communications strategies that will advance public understanding of social problems and improve public support for remedial policies. The Institute's work also includes teaching the nonprofit sector how to apply these science-based

communications strategies in their work for social change. The Institute publishes its research and recommendations, as well as toolkits and other products for the nonprofit sector, at www.frameworksinstitute.org.

Please follow standard APA rules for citation, with FrameWorks Institute as publisher and author. FrameWorks Institute. (2010). *Planning for our future: The contribution of simplifying models to budgets and taxes.* Washington, DC: FrameWorks Institute.

APPENDIX: THE METHODOLOGICAL APPROACH TO IDENTIFYING AND TESTING SIMPLIFYING MODELS

Phase 1. Mapping the Gaps

FrameWorks' research team first conducts two types of interviews, *cultural model interviews* and *expert interviews.* Cultural model interviews are conducted with members of the general public and are designed to gather data that reveal the underlying patterns of assumptions — or cultural models — that members of the public apply in processing information on a given topic. For this project, we conducted 25 individual interviews. FrameWorks' research team also conducts interviews with researchers, advocates and practitioners who possess an "expert" or technical understanding of the given phenomenon which are designed to elicit the expert understanding of the issue. Comparing the data gathered from these interviews reveals the gaps that exist between how experts and average Americans understand and approach issues. For this data we drew upon a significant amount of previous research that FrameWorks has done since 2004 on how Americans think about government.[12] Additionally, the expert viewpoint was informed by FrameWorks' involvement with the *Choosing the Nation's Fiscal Future*, a 2010 report from the National Academies of Science on the ramifications of the increasing debt.[13]

Phase 2. Designing Simplifying Models

FrameWorks' research team then analyzes transcripts of the interviews conducted in Phase 1 to generate a list of metaphor categories that capture salient elements of the expert understanding, using approaches to metaphor from cognitive linguistics and psycholinguistics. The result of the design process is a list of both metaphor categories (e.g., "connection," "circulation") and multiple candidate simplifying models in each category (e.g., "the garden effect," "the pay later boomerang").[14]

FrameWorks had two general goals for the simplifying models on this issue. First, the models were designed to give people a way of connecting budgets and taxes. Secondly, the simplifying models were designed to inoculate people's thinking and talking from the numerous dominant models about budgets and taxes that are so powerful in the public discourse. In this way, the models were designed to get people to a place in their understanding of budgets and taxes where they could see a role for themselves as political actors.

FrameWorks' linguist analyzes all of the transcripts from the "mapping the gaps" phase of the research process and generates a list of metaphor categories that represents existing conceptual understandings that can be recruited as well as overlap between the experts' and general public's use of metaphorical language and concepts. The linguist generates metaphor categories that capture the *process* element of the expert understanding in metaphors that, given the data gathered from members of the general public, have the potential to be easily visualized and incorporated into thinking about the issue under consideration (i.e., budgets and taxes).

FrameWorks' researchers who are specialized in cultural models and cognitive theory conduct a cognitive analysis of the model categories, which examines the *expected* public response to the metaphors based on cultural models theory and existing FrameWorks research on cultural models that Americans employ in understanding budgets and taxes. Researchers then use this analysis to review the metaphor categories, adding new possibilities and suggesting ones to be

cut. At this stage, researchers also compare the candidate metaphors to the data from the initial cultural models interviews. Metaphor categories that contain elements or aspects of models found to be damaging or distracting in the public's thinking about the topic are suggested as categories to be eliminated from the candidate list. On the other hand, simplifying model categories containing elements of more productive cultural models are highlighted as particularly promising.

During the process of designing candidate simplifying models, FrameWorks also assesses the models' abilities to be incorporated into practice by journalists and advocates/practitioners. In some cases, this practical assessment has suggested that some candidate models are too provocative or insipid to pass into the public discourse. These models are removed from the working list. The refined list is then returned to the linguist who begins to compose iterations or executions of the categories on the list. The list of categories and iterations is sent back to FrameWorks' researchers for additional revisions.

Phase 3. Testing Simplifying Models

FrameWorks tests the candidate simplifying models in three research formats that are described below.

Test I. On-the-Street Interviews

On-the-street interviews help us examine which specific elements of the models are functioning well and which are less successful at shifting perspectives. In March 2009, FrameWorks tested a total of seven candidate simplifying models in three locations throughout the state of Kansas: Kansas City, Wichita and Iola. Each candidate model was presented orally, in separate interviews, to three or four informants in each of three locations for a total of seven interviews per model, comprising a total data set of 49 10-minute interviews. All informants signed written consent and release forms, and interviews were video and audio recorded by a professional videographer.

The seven models tested represented executions of six candidate simplifying model categories (e.g., Pay Now or Pay Later, Connection, Circulation, Allocation, Circulation + Allocation, Pooling). Two iterations of the "Circulation" category were explored to provide definitive feedback on the metaphor of the Exchange Loop. Data from the interviews were used to winnow and refine categories as well as to refine the individual executions of metaphors within categories.

Subjects

A total of 49 informants were recruited on site in each of the three locations. A FrameWorks researcher approached individuals on the street or walking through a mall and asked if they would be willing to participate in a short interview as a part of a research project on "issues in the news." The recruiting researcher paid particular attention to capturing variation in gender, ethnicity and age.

Data on each informant's age and party affiliation, as self-identified, were collected after the interview. Efforts were made to recruit a broad range of informants. However, the sample is not meant to be nationally representative. Although we are not concerned with the particular nuances

in how individuals of different groups respond to and work with the simplifying models tested in these interviews, we recognize the importance of between-group variation, and take up this interest in quantitative testing of simplifying models — where the virtues of quantitative sampling techniques can effectively and appropriately address issues of representativeness and across group variation.

The Interview

FrameWorks had the following goals in designing and conducting on-the-street interviews: (1) identify particularly promising simplifying model categories, (2) refine those categories with more mixed results and (3) eliminate highly problematic categories, in which the underlying *concept* created problems that could not be overcome by refining existing or designing new executions. FrameWorks' approach to this winnowing process is highly conservative to assure that only the most unproductive categories — those that are beyond repair — are eliminated.

However, winnowing is a necessary feature of a process that intentionally produces a large set of possible iterations, but that culminates in the one most effective simplifying model.

More specifically, interviews were designed to gather data that could be analyzed to answer the following questions:

A. Did the informants *understand* the model and its underlying metaphor?

B. Did they *apply* the model to talk about budgets and taxes?

C. Did the model *shift* discussions away from the dominant thought patterns that characterized the initial responses?

D. Did exposure to the model *lead to more articulate answers and robust, fully developed conversations* of issues that informants had problems discussing prior to being exposed to the model?

The interview began with a short series of open-ended questions that dealt with budgets and taxes. The interviewer then discussed one of the candidate simplifying models using a memorized but conversational script. Following this exposure to the simplifying model, the researcher asked informants a second series of open-ended questions designed to gauge the effect of the simplifying model in shifting perspectives on budgets and taxes and in facilitating more robust conversations around these issues. Some of these questions were reformulations of the initial questions using different language so as not to appear repetitive. The interviewer also presented informants with a budget and tax issue currently in the news (the current trouble we are having with providing and maintaining many public goods and services in the United States) and asked what they would do about the situation. Finally, informants were asked to explain how budgets and taxes in their local town or state affect their quality of life to see if the candidate simplifying model was used in structuring their narration.

Conclusions

In this stage of testing, we discovered that the metaphor category based that on the idea of "pooling of resources," was highly problematic because it focused participants on the fact that

the government ultimately would have control over the pooled resources. These conversations veered into the unproductive territory of "what's wrong with government."[15] Other models raised unproductive discussions of fairness (e.g., it's not one-for-one; you don't get what you put in; those who use the most services are those who pay the least; the fairest system would be one where everyone paid the same amount). Other categories and models did lead to productive thinking and were judged quite promising. Several simplifying models in four conceptual categories (preventing, planning and maintaining, circulation and allocation) were prepared for the next empirical test: the quantitative experimental survey.

The results of on-the-street interviews were used to pare the six categories into the following four (listed here with the specific candidate models):

Preventing

Pay Later Boomerang, Backslide Effect

Planning and Maintaining

Access Grid, Public Machinery Effect, Public Structures Effect

Circulation

Garden Effect, Forward Exchange

Allocation

Pay it Forward, Playbook Effect

Test II: Quantitative Experimental Research

After analyzing on-the-street interview data, FrameWorks subjected the refined set of simplifying models to an online quantitative experiment. The overarching goal of this experiment was to gather representative and statistically powerful data on the models' effectiveness. These data then provided an empirical basis to select one or two models that were most successful relative to a set of theoretically driven outcome measures. In the end, experimental data were used to select and refine two models that were then taken into the final stage of the empirical testing process.

In January 2010, FrameWorks conducted the survey, which measured the performance of nine candidate simplifying models and four metaphor categories in relation to a set of outcome measures. A group of 2,600 survey participants were drawn from a national online panel, and data were matched on the basis of gender, age, race, education and party identification to ensure that the sample was nationally representative.

Experimental Design

Following exposure to one of nine "treatments" — paragraph-long iterations of candidate metaphors — participants answered a series of questions designed to measure a set of theoretically-based outcomes. Effects were compared both across and within categories — meaning that general categories were tested against other general categories, and specific

iterations were tested against other iterations both within and across categories. Outcomes measured included: *understanding, application, effect on policy reasoning, attribution of responsibility* and *agency.*

Treatments

Coming into the experiment, results of on-the-street interviews were used to pare the six categories into four: Preventing, Planning and Maintaining, Circulation and Allocation. In designing the survey instrument, multiple iterations were generated by a linguist as alternative representations of the larger metaphor categories. For example, the Preventing category included iterations for the Pay Later Boomerang and the Backslide Effect, while Planning and Maintaining contained the Access Grid, the Public Machinery Effect and the Public Structures Effect.

In total, nine specific simplifying model iterations were developed. Each treatment was tested with 2,600 participants. Each treatment consisted of a paragraph that described the metaphor, as in the following example:

> **Pay Later Boomerang:** Some people say that public budgets help us avoid the "pay later boomerang." The idea is that when we decide to put off spending on public goods until later, we're throwing a boomerang, but boomerangs always come back, and we don't know where and when the boomerang will hit. Someday we'll certainly have to pay for public goods like schools and colleges, highways, and health and safety agencies, but we can't predict how much it will cost or how our needs might change. A good public budget keeps the boomerang on the ground, and good taxes are what we use to pay for public goods we need.

Each iteration included examples and entailments derived from the metaphor. For example, the unpredictable return of a boomerang was an entailment discussed in the Pay Later Boomerang, and the need to avoid unforeseen costs or needs in the Backslide Effect was another entailment. Unlike the other models, these two were notably different as things to be avoided, not pursued. This slight variation did not cause these models to be favored or disfavored, because the iterations were otherwise parallel (in overall length, sentence length and complexity, and sequence of items). On the whole, the treatments were substantial enough in length to trigger thinking in the minds of participants. Among iterations, only the name of the model (e.g., Pay Later Boomerang), entailments and structural features specific to that metaphor, and appropriate lexical items or phrases differed. This balance of *variation* between models and *standardization* in construction and language is designed to ensure that any differences in effect were due to differences between the models themselves, and not to some unintended confounding variable.

Data Collection

In the experiments, participants were asked to respond to a brief series of introductory questions where they rated their level of concern about a set of political issues unrelated to budgets and taxes. To avoid contaminating the effects, these issues were both broad and rotated each time the survey was administered. Following these questions, subjects were assigned and exposed to one of the nine treatments. Subsequently, participants were asked to answer a set of questions specific to their treatment.

Outcome Measures

After receiving the treatment paragraph, participants were asked a series of multiple choice questions to test each model's performance in relation to four outcome measures.

A. One understanding question was designed to gauge the participant's grasp of the source domain (e.g., Forward Exchange). In other words, these questions gathered data on whether the participant understood, for example, what Forward Exchange refers to and how it functions.

B. One mapping question of Source onto Target Domain measured whether or not participants understood. Participants were asked to map the metaphor (i.e., a boomerang) onto a connection between budgets and taxes — essentially examining how well participants were able to connect each model to the issue of budgets and taxes.

C. Two questions measured participants' ability to reason about budgets and taxes using the model as a basis for thinking and answering. Of the three possible answers, the correct one followed from the simplifying model, while the other two represented culturally dominant positions.

D. Two questions measured participants' willingness to answer a theoretical question about how they might behave in the local political sphere (e.g., by writing a letter to legislators) and in their personal sphere (e.g., in discussions with family members or coworkers). As in B and C above, the incorrect answers came from dominant cultural models.

On the six questions measuring understanding, the second runner-up was Playbook, while the Backslide Effect was second in the attitude battery.
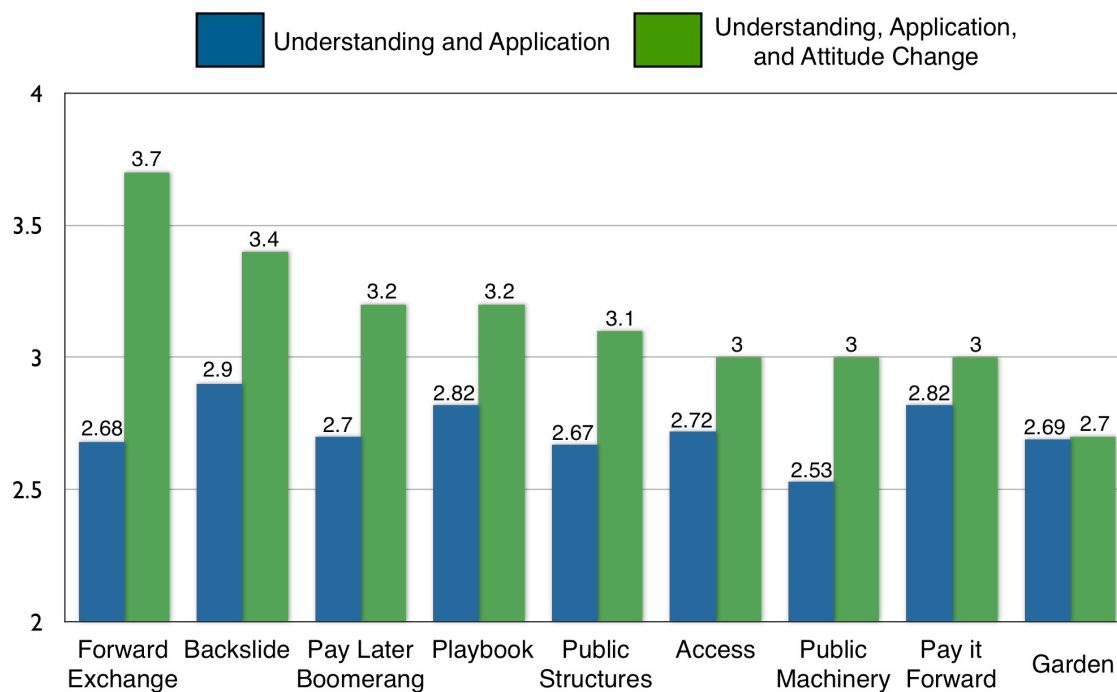
Attitudes

The survey also pitted the nine models against each other and a control to assess their efficacy at moving participants' attitudes about solutions to budget and tax issues in a politically progressive direction.

Composite

As shown in Figure 1, when these two quantitative results were combined into a composite score, Backslide Effect was the second runner-up overall, while Forward Exchange scored the highest. These top two models were next brought into Persistence Trials in Baltimore and Atlanta.

Figure 1: Quantitative Experiment Results

Legend:
- ■ (blue) Understanding and Application
- ■ (green) Understanding, Application, and Attitude Change

Model	Understanding and Application	Understanding, Application, and Attitude Change
Forward Exchange	2.68	3.7
Backslide	2.9	3.4
Pay Later Boomerang	2.7	3.2
Playbook	2.82	3.2
Public Structures	2.67	3.1
Access	2.72	3
Public Machinery	2.53	3
Pay it Forward	2.82	3
Garden	2.69	2.7

Note on Statistics

Though Forward Exchange scored lower than others on the Overall Knowledge score, on the Attitudinal measure it moved attitudes significantly in the progressive direction as compared to a control condition. (Figure 1 shows a composite of the Knowledge and Attitudinal scores.) Forward Exchange's total effect on the Attitudinal measure was 16.5 points. Additionally, while score differences were not statistically significant from the control, Backslide Effect was the second most effective model on the attitudinal questions.

Test III: Persistence Trials

After using quantitative data to select the most effective model(s), FrameWorks conducts Persistence Trials to answer two general research questions: (1) *Can* and *do* participants transmit the model to other participants with a reasonable degree of fidelity? (2) *How* do participants transmit the model? In other words, the method examines how well the simplifying models hold up when being "passed" between individuals, and how participants use and incorporate the models in explanation to other participants.

The Persistence Trial

A Persistence Trial begins with two participants. The researcher presents one of the candidate simplifying models and asks the two participants a series of open-ended questions designed to gauge their understanding of the simplifying models and their ability to apply the model in discussing the target domains (the connection between budgets and taxes). For example, the

researcher asked how the participants understood the simplifying model; what they imagined the source domain (e.g., Backslide Effect) referred to; and how the idea presented related to budgets and taxes. Questions and analysis were also designed to locate any terms or ideas in the execution of the model that participants had difficulty with or explicitly recognized as problematic.

After 15 to 20 minutes of discussion between the two initial (hereafter referred to as "Generation 1") participants and the interviewer, Generation 1 was informed that they would be "teaching" the simplifying model to another group of two participants (Generation 2). Generation 1 was given five minutes to design a way of presenting the simplifying model, after which they had five minutes to present the simplifying model to Generation 2. Generation 2 then had five to 10 minutes to ask Generation 1 questions about the presentation. During this time the interviewer generally allowed dialogue to unfold naturally between the two groups but periodically probed for additional information on ideas that emerged.

Generation 1 then left the room and the interviewer asked Generation 2 an additional set of questions designed to elicit their understanding of the simplifying model and ability to apply the concept. This questioning lasted for approximately 10 minutes, at which point Generation 2 was informed that they would be "teaching" the idea to two new participants (Generation 3). Generation 2 had five minutes to plan their presentation after which Generation 3 entered the room, and the two groups went through the same steps and questions as described above.

A Persistence Trial ends when Generation 1 returns to the room, where they are allowed to debrief with Generation 2 on the direction the metaphor has taken. The interviewer then reads the original paragraph-long iteration and asks questions about its transmissibility.

For the budgets and taxes research discussed here, FrameWorks tested two candidate simplifying models (Backslide Effect and Forward Exchange) in Baltimore, Md., and Atlanta, Ga., in February and March 2010. Each candidate model was tested in three Persistence Trials. All informants signed written consent and release forms prior to participating in the sessions, and interviews were video and audio recorded by professional videographers.

Subjects

A total of 36 informants participated in Persistence Trials in Atlanta, Ga., and Baltimore, Md. These individuals were recruited through a professional marketing firm, using a screening process developed by and employed in past FrameWorks research. Informants were selected to represent variation along the domains of ethnicity, gender, age, educational background and political ideology (as self-reported during the screening process) for reasons mentioned above.

Analysis

In analyzing data from Persistence Trials, FrameWorks sought to answer the following specific questions in relation to each simplifying model:

A. Were participants able to *apply* the simplifying model to connect budgets and taxes, and more specifically *what* were the ways in which they applied the model?

B. Was the simplifying model *communicable?* Were Generation 1's, 2's and 3's presentations of the simplifying model faithful to the initial model presented by the interviewer? How did the groups' presentations of the model differ from that presented by the interviewer (i.e., did they use different language, use different ideas related to the metaphor, emphasize different entailments, etc.)?

C. Did the simplifying model *inoculate* against the dominant default cultural models? That is, did the model prevent discussions from falling back to the dominant unproductive cultural models? Furthermore, if one of these cultural models did become active, could the simplifying model prevent the discussion from veering narrowly in these perceptual directions?

D. Did the simplifying model *self-correct*? That is, if one Generation's presentation was not faithful to the original simplifying model or left out a key component, did the ensuing Generation's interpretation and/or presentation self-correct? For example, if Generation 1's presentation of the Backslide metaphor only talked about cutting taxes as necessary for balancing a budget, did Generation 2 introduce the need to prevent future high costs by spending now?

E. What specific *language* did the groups use in discussing the model? Was there language that participants used that was not included in the original execution of the simplifying model?

As described in the main body of this document, Forward Exchange produced a number of beneficial effects on participants' talking about budgets and taxes.

ENDNOTES

[1] Kendall-Taylor, N. (2010). *An empirical simplifying models research process: Theory and method*. Washington, DC: FrameWorks Institute.

[2] Kendall-Taylor, N. (2009, Winter). Mapping cultural models and translating expert explanations of child development with simplifying models. *New Directions for Youth Development. 124*, 51-59.

[3] Bales, S. & Kendall-Taylor, N. (2009). Like Mars to Venus: The separate and sketchy worlds of budgets and taxes. Washington, DC: FrameWorks Institute.

[4] Quinn, N. (2005) *Finding culture in talk: A collection of methods.* New York, NY: Palgrave Macmillan.

[5] Kendall-Taylor, N. (2010). *An empirical simplifying models research process: Theory and method*. Washington, DC: FrameWorks Institute.

[6] FrameWorks Institute. (2009). *Strategic messaging framing during the economic downturn: Remembering the long view*. Washington, DC: FrameWorks Institute.

[7] While "Forward Exchange" and "Exchange Loop" shared the idea of "exchange," the combination of "loop" and "exchange" in the latter triggered powerful discourse on fairness in on-the-street interviews, along the lines of "Why should they be on the loop if they're not paying in?" or "People who don't pay as much as I do shouldn't be on the same loop that I'm on." Because of this problem, Exchange Loop was winnowed out after on-the-street interviews. Forward Exchange avoided this problem by emphasizing more strongly the shift and expansion in the perspective of time over which budgets and taxes are connected. "Pay it Forward" and "Forward Exchange" shared this expanded way of thinking about time, but "Pay it Forward" fared poorly on the quantitative experiment and was thus winnowed.

[8] Kendall-Taylor, N. & Bales, S. (2009).

[9] Bales, S. & Kendall-Taylor, N. (2009).

[10] FrameWorks Institute. (2006). How to talk about government: A FrameWorks MessageMemo. Washington, DC: FrameWorks Institute.

[11] Bales, S. & Kendall-Taylor, N. (2009)**.**

[12] Publications (available on the FrameWorks website) include *Public structures as a simplifying model for government*, *Without a mission: An analysis of qualitative research exploring perceptions of government*, and the *How to talk about government* toolkit for framers.

[13] Accessible at http://www.nap.edu/catalog.php?record_id=12808

[14] The list of categories and candidate models at each research stage can be found in Appendix A.

[15] FrameWorks Institute. (2006).