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**From Economic Gains to Social Losses**  
How Stories Shape Expectations  
in the Case of German Municipal Finance

Florian Fastenrath, Agnes Orban, and Christine Trampusch



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## Abstract

This paper analyzes how stories shaped treasurers' expectations in municipal swap activities and contributes to the sociological debate on the mechanisms of expectation formation. Employing a deductive variant of process tracing, it synthesizes the literature on expectations in economic decision making with the literature on the diffusion of "ideas," "myths," and "fashions" in organization theory and management studies. The swap story has spread since the mid-1990s among German municipalities. At the heart of this story is the replacement of traditional borrowing with active portfolio optimization; financial instruments known as swaps play a leading role. This paper examines how stories shape expectations. Specifically, it delves into how the swap story, as a solution to the financial woes of local governments, shaped these governments' expectations despite the uncertainty resulting from the instruments' complexity. We argue that the effect of stories on expectations depends on timing. Expectations at an early stage are shaped by economic analyses to reduce uncertainty, while expectations at a later stage are primarily shaped by societal pressures and an established trend. These two distinct mechanisms produce expectations related to economic and social consequences, respectively. Selecting four typical cases, our analysis confirms that stories affected the formation of treasurers' expectations regarding the use of swaps through these different mechanisms.

**Keywords:** stories, expectations, financial innovations, economic sociology, financialization, causal mechanisms

## Zusammenfassung

Dieses Papier analysiert, wie Stories die Erwartungen von Stadtkämmerern bei dem Abschluss von Swapgeschäften geprägt haben, und trägt somit zur soziologischen Debatte über die kausalen Mechanismen der Erwartungsbildung bei. Unter Verwendung einer deduktiven Variante der Prozessanalyse wird die Literatur zu Erwartungen bei ökonomischer Entscheidungsfindung mit den Konzepten der Diffusion von „Ideen“, „Mythen“ und „Fashions“ aus der Organisationstheorie und Betriebswirtschaft zusammengeführt. Die Swap-Story verbreitete sich seit Mitte der 1990er-Jahre unter deutschen Kommunen. Im Zentrum steht dabei das Ersetzen eines traditionellen passiven Umgangs mit Schulden durch ein aktives Portfoliomanagement, bei dem die als Swaps bekannten Finanzinstrumente eine entscheidende Rolle einnehmen. Diese Studie geht der Frage nach, wie die Erwartungen der Kommunen durch die Swap-Story als Lösung ihrer fiskalischen Probleme beeinflusst wurden, obwohl die Instrumente mit extremer Ungewissheit behaftet sind. Wir argumentieren, dass der Effekt von Stories auf Erwartungen von der zeitlichen Dimension abhängt. Während Erwartungen in einer frühen Phase der Einführung von ökonomischen Analysen geprägt sind, um Unsicherheit zu reduzieren, so sind sie in einer späteren Phase primär von gesellschaftlichem Druck und einem bereits etablierten Trend beeinflusst. Diese zwei verschiedenen Mechanismen erzeugen Erwartungen, die jeweils ökonomischen sowie sozialen Konsequenzen zugehörig sind. Unsere Analyse verifiziert anhand vier ausgewählter typischer Fälle, dass Stories die Erwartungsbildung von Kämmerern hinsichtlich der Nutzung von Swaps durch diese verschiedenen Mechanismen beeinflussen.

**Schlagwörter:** Stories, Erwartungen, Finanzinnovationen, Wirtschaftssoziologie, Finanzialisierung, kausale Mechanismen

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# From Economic Gains to Social Losses: How Stories Shape Expectations in the Case of German Municipal Finance

## 1 Introduction

The year 2005 can be seen as the peak of the derivatives hype across German local governments (City 1 interview, November 2016<sup>1</sup>; see also Figure 1 below). Having already experienced considerable financial problems in the 1980s and 1990s, local governments ran up extremely high budget deficits in the early 2000s, which were mainly caused by a stagnation of revenues, increasing social expenditures, and a new federal tax policy. Some cities began making derivative deals as early as the mid-1990s. Hundreds of local governments began to follow suit the mid-2000s, introducing these instruments as a normal means of managing their local debt.

Through interest rate swaps – which are the derivative instruments most frequently used by municipalities (Birkholz 2008, 172) – contracting partners agree to “swap” future interest rate payments. The most common swap deals made by local governments are floating-to-fixed rate swaps or fixed-to-floating rate swaps (Kolar 1996, 332). In a fixed-to-floating rate swap, the local government (or entity) pays the swap partner (which is mostly a bank) a floating interest rate while it receives a fixed-rate payment from the bank. Losses occur, for example, if the floating rate rises above the fixed-rate which the government receives from the bank. As a result, the local government has a higher interest rate payment than that fixed in the original debt obligation. However, gains can also occur. For the moment, however, the market has come to a halt, not least because several municipalities incurred millions of Euros’ worth of losses from their deals and many of them have filed lawsuits against their banks. In the German Federal state of North Rhine-Westphalia (NRW), at least 52 cities took legal action against banks such as Westdeutsche Landesbank (WestLB) and Deutsche Bank, accusing them of fraudulent activities and miscounseling (Kuhlen 2016). In addition, the continuing low interest rate policy of the European Central Bank has to be considered, since it was fluctuating and relatively high interest rates during the 1990s together with corresponding high borrowing costs in particular that led cities think about turning to derivatives markets in the first place.

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1 The exact dates of the four interviews cited in the paper appear in the Appendix.

In contrast to Italian and British municipalities, which are entirely prohibited from using any derivatives by central government regulations (as a political reaction to huge financial disasters), German cities are still authorized to make use of them. They remain part of their autonomous local financial management repertoire, and it may not be too far-fetched to imagine that a change in the interest rate environment will be accompanied by an increase in derivatives usage. A large number of German local governments (according to The Association of Taxpayers in NRW (BdSt 2009), about 150 of 396 in North Rhine-Westphalia alone) came to believe that swaps are a valuable tool in their debt management and continue to do so (Trampusch and Spies 2015). They thereby replaced planning security (in connection with fixed-interest loans) with uncertainty in their local finances, as the payments linked to swap deals occur in the future and various outcomes are possible. The swap story became so powerful that governments assumed additional uncertainty and even potential losses.

This paper seeks to provide an answer to the question: how does a story shape the formation of expectations when future outcomes cannot be predicted? Stories help actors imagine these future outcomes and the means of attaining them: “Stories provide causal links to show how the gap between the present state of the world and the predicted future state will be closed, thus providing plausible reasons why one should expect the outcome the teller has chosen to depict” (Beckert 2016, 69; see also Czarniawska 2004, 7). While economists and sociologists agree that stories are among the most important factors that must be considered if we want to understand the formation of expectations and, consequently, economic decisions in a capitalist economy (Akerlof and Shiller 2009, Chapter 5; Beckert 2013), the specific mechanisms that explain how stories successfully shape expectations are underexplored. This paper aims to contribute to the debate on the mechanisms of expectation formation. We conceptualize expectations as an actor’s beliefs about the consequences of alternative action-courses (Esser 1999, Chapter 7; Shackle 1964, 13).

Based on a synthesis of the literature on expectations in economic decision making with the literature on the diffusion of “ideas,” “myths,” and “fashions” in organization theory and management studies (DiMaggio and Powell 1983; Meyer and Rowan 1977; Tolbert and Zucker 1983; Gulati, Shortell, and Westphal 1997), we claim that the effect of stories on expectations depends on time or, more specifically: depends on the number of previous story-followers. Deductively, we hypothesize two different mechanisms of how stories are influential in the formation of expectations. These mechanisms differ in the following aspects:

- What is the timing – is the story told to early or late adopters (scope conditions)?
- Who are the main storytellers?
- How do these storytellers present the story?
- What are the motivations of actors listening to the stories?
- What is the content of expectations that are affected by the story?

The two mechanisms share the initial condition, namely the story.

We argue that a story affects the expectations of early adopters (only a low number of story followers) if it is able to reduce uncertainty. Here, the information needs to be enriched with calculative devices such as economic models, theories, and forecasting that help to predict future outcomes. But as soon as the majority believes in a story, calculability loses importance because the story achieves a status of a “myth” (Meyer and Rowan 1977) or a societal expectation (Abrahamson 1996). The remaining actors follow the story regardless of cost–benefit calculations because the story reflects the expectations of the majority. Negative social consequences of non-following, such as looking irrational or unmodern and falling behind, gain in importance. The two proposed mechanisms are tested in four case studies of German municipalities and their expectations regarding the use of derivatives. For this test we selected typical cases.

In the next section of this paper, we briefly summarize the research agenda on the formation of expectations and the role of stories in this regard. In order to contribute to this debate, we build on economic sociology and develop the argument that stories shape expectations by two different mechanisms. Furthermore, Section 2 explains our understanding of causal mechanisms, our typical cases research design as well as the data sources. In part three, we present the empirical results: the spread of swaps among municipalities in NRW, the swap story, in which swaps were presented as the causal bridge between the present situation (municipal fiscal stress) and the imagined future state (financial relief/political autonomy), and evidence for the presence of the two mechanisms in the cases of four cities in North Rhine-Westphalia. The fourth part concludes with a summary of the results and implications for research on the formation of expectations, the effect of stories on expectations, and the financialization of the state.

## **2 How stories shape expectations: From calculative devices and economic gains to following trends and fearing social losses**

In the economic and sociological literature on economic decision making it is uncontested that explaining economic decisions in a capitalist economy requires an analysis of how actors form expectations. While economists and sociologists may agree that expectations are specific statements about the future, their causal conceptions of how actors form expectations and why these expectations may change differ (for a discussion of economic perspectives, see Gakieh 2008; for sociological alternatives, see Beckert 2016; Emirbayer and Mische 1998). We can distinguish three main approaches to the description of expectations: rational expectations and adaptive expectations within economics and fictional expectations within economic sociology. The first two perspectives assume that actors arrive at an informed prediction of future outcomes by using all information available about the determinants of a variable when forming expectations (in the case of adaptive expectations only the most recently observed error). Expectations are the subjective probability distribution of outcomes. Since these expectations

are “informed predictions,” they match the predictions of a relevant theory – they are rational (Muth 1961, 316). While economic perspectives assume that people are able to calculate subjective probabilities of future outcomes, the fictional expectations perspective (Beckert 2016) in sociology rejects calculation as the *modus operandi*.<sup>2</sup> According to this approach, uncertainty makes calculation and the assignment of probabilities to outcomes of an action-course impossible, meaning that expectations are necessarily socially constructed. In Beckert’s fictional expectation approach, calculation is a form of storytelling itself and the reduction of uncertainty through calculation is impossible as outcomes are incalculable. Calculations “are not instruments that make it possible to anticipate the future, but tranquilizers against the paralyzing effects of having to act in unpredictable environments” (Beckert 2013, 234). This difference mainly results from different assumptions about the state of the world (uncertainty or risk) and hence about whether future outcomes can be calculated and probabilities assigned in principle. Instead of ruling out a perspective a priori, it seems more promising to acknowledge that rationality is not a constant but a variable (Stinchcombe 1986, 5f.) and that different logics of action exist (March and Olsen 2009).<sup>3</sup> The degree of rationality, then, becomes something to be explained because “the ability to reach probability judgments also depends on social context” (Rona-Tas and Guseva 2001, 625). Credit rating agencies (Rona-Tas and Guseva 2001) or calculative tools such as economic models (MacKenzie 2006) and market categories developed by financial analysts (Beunza and Garud 2007) reduce uncertainty and enable calculation in the first place. Hence, and following Esser (1999, Chapter 7) and Shackle (1964, 13), we conceptualize expectations here, without implying a mode of action a priori, as *actors’ beliefs about the outcomes or consequences of a course of action open to them*.

A story has a narrative structure that causally links information regarding the present state with information regarding the future state. Both economic and sociological approaches argue that stories or narratives are central to the formation of expectations precisely because they describe desirable future states of the world (Beckert 2016; Emirbayer and Mische 1998) and possible roads towards future success (Akerlof and Shiller 2009), and because they help actors arrive at projections of future economic developments and policy decisions (Smart 1999). Stories differ from mere information because they contain pieces of information that have already been interpreted causally and organized to form a coherent whole – ready to be communicated in ways that are meaningful to an audience. Stories are “pre-packaged” sets of information organized

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2 Although Beckert agrees that calculation affects the formation of expectations, he depicts calculation as leading to fictionality as well: “calculative assessments of outcomes should – under conditions of uncertainty – be considered fictions themselves” (Beckert 2013, 234).

3 Our understanding of rationality follows that of Jon Elster: “The action is the best way for the agent to satisfy his desire, given his belief; the belief is the best he could form, given the evidence; the amount of evidence collected is itself optimal, given his desire. ... Both the belief and the desire must be free of internal contradictions. ... The action must not only be rationalized by the desire and the belief; it must also be caused by them and, moreover, caused ‘in the right way.’ Two similar conditions are imposed on the relation between belief and evidence” (Elster 1986, 16).

around a specific causal plot. However, while the role of stories is acknowledged, the specific mechanisms that explain how stories successfully shape expectations remain underexplored (Beckert 2013).

How exactly are stories influential when future outcomes cannot be predicted with certainty? We approach this question by combining the more recent literature on expectations in economic decision making with some of the older literature on the diffusion of practices (e.g., Kennedy and Fiss 2009; Tolbert and Zucker 1983), “myths” (Meyer and Rowan 1977), and “management fashions” (e.g., Abrahamson 1991; 1996) that is prominent in organization theory and management studies. These strands in the literature show that economic as well as social considerations shape perceptions, motivations, or expectations of actors. They also suggest a two-stage model and argue that the specific mechanisms that explain actors’ motivations differ between early and late adopters, as the importance of economic and social considerations depends on the number of previous adopters of an innovation or an idea (Kennedy and Fiss 2009; Tolbert and Zucker 1983).

Based on this literature we argue that the effect of a story on expectations depends on time because the previous adoption by other relevant actors matters: the same story affects the anticipation of future outcomes differently for someone who is among the first to hear it and for someone who is exposed to it after it has already generated a large number of followers. According to organization theory, while early adopters are primarily motivated by the anticipated economic benefits and calculations result in expectations that are defined in terms of economic outcomes, late adopters are more affected by the behavior of previous adopters (Tolbert and Zucker 1983; Gulati, Shortell, and Westphal 1997).<sup>4</sup> In the latter case, societal expectations of what is considered as rational behavior are more decisive than material considerations. The more organizations adopt an idea, the less it is questioned because it must “be taken for granted as legitimate, apart from evaluations of their impact on work outcomes” (Meyer and Rowan 1977, 344). Hence, while early adopters try to calculate the future economic benefits of an innovation and assess whether it will increase efficiency, late adopters primarily respond to what is already widely perceived as efficient and rational by others. Actors adopt an idea because doing so establishes them as rational and modern – even if following might be individually inefficient. Late adoption thus depends not on expected benefits but on the “the degree to which there is a common understanding that the change is necessary for efficient organizational performance” (Tolbert and Zucker 1983, 26).

More recent contributions to organization theory (Kennedy and Fiss 2009) and management studies (Nikolaeva 2014) have built on this insight in order to develop an integrated model. The distinction between social and economic gains, however, fades

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4 Granovetter (1978) also distinguishes between two phases of adoption but explains the time dependence differently. According to Granovetter, the decisions of others feed into individual cost–benefit calculations and, hence, preferences. We thank one of the reviewers for drawing our attention to this.

into the background in these works. Kennedy and Fiss (2009) conceptualize the difference between early and late adopters as a question of anticipated gains and anticipated losses respectively. According to this conceptualization, early movers are motivated by the *opportunity* to achieve economic and social gains, while followers are motivated by the *threat* of economic and social losses. From an information perspective, Nikolaeva (2014) argues that in the early stage, organizations are in search of efficiency gains and information about benefits and opportunities, while in the later stage, the fear of social threats and potential disadvantages lead to the desire to imitate the majority. This threat from not following may even override existent information about harmful economic outcomes.

Based on these reflections, we hypothesize two sequential mechanisms of how stories affect expectations. Storytelling in the case of early adopters needs to provide credible information and the calculation of future costs and benefits in order to reduce uncertainty (e.g., through financial analysis, forecasting, or modeling). This should be a less important property of stories that shape the expectations of late adopters because at that stage, stories reflect a socially shared “myth” about what is rational to do, i.e., represent a societal expectation (Abrahamson 1996; Meyer and Rowan 1977) about necessary steps towards a socially defined end. At the stage of early adopters, when the number of followers is still low and societal expectations have not yet developed, organizations will make independent decisions. In deciding whether to adopt an idea, actors will assess the opportunities with regard to their economic needs and potential economic gains. A story should be successful during this stage if it can credibly predict economic benefits and thereby help actors to overcome uncertainty regarding the outcome of a decision. In modern capitalist economies, calculative devices such as economic models, theories, and forecasting appear to provide the most important ingredients of successful stories (Beckert 2016). Numerous studies lend support to the argument that influential narratives stem from economists (Fourcade-Gourinchas and Babb 2002), particularly financial economists (MacKenzie 2006; Whitley 1986), financial and technical analysts (Beunza and Garud 2007; Kraemer 2010; Preda 2007), central banks (Holmes 2009; Smart 1999), and rating firms (Sinclair 2005). Central bank narratives are one prominent example of how storytelling with calculative devices helps economic actors to cope with uncertainty. As Holmes puts it: “The challenge for central banks is to discipline expectations with persuasive narratives, informed by a continuous stream of data and analyses, articulated in a measured and consistent fashion” (Holmes 2009, 285). Analysts are builders of calculative devices that “bracket, give meaning and make it possible to develop quantitative point estimates” (Beunza and Garud 2007, 35). Calculative tools reduce uncertainty and hence make calculation possible (Rona-Tas and Guseva 2001). A new story will affect the expectations of an actor because it provides seemingly rational forecasts of the outcomes of a new course of action. The resulting expectations will be of an economic nature: an anticipated increase in material gains.

While economic motivations are important at an early stage, they lose importance at later stages. Once a critical number of relevant organizations believe in a success story,

it turns into a “myth” about what is rational and modern. One example for such a “myth” (or story about what is rational) can be found in Piotti’s (2009) account of German companies relocating to China. The story of cost reductions through relocations dominated the German press. The narrative provided information about the behavior of other actors and the benefits of relocating to China, which fostered imitation. In addition, the story underestimated the possible costs of relocation. This led to a unilateral view that was largely unquestioned by economic actors. Myths are “reinforced through the increasing adoption of practices coherent with those ideas” (Piotti 2009, 309). In the end, the level of profits after relocating remained at a low level, or firms experienced unpredicted losses. Piotti shows that actors simply followed the “success story” because they believed in the majority view. According to Tolbert and Zucker (1983) and Gulati, Shortell, and Westphal (1997), economic considerations and calculations increasingly become background considerations in this stage while anticipated social outcomes and the desire to appear rational come to the fore. In contrast to the early stage, actors will not or cannot assess the value of an innovative idea for their specific needs, since a common understanding about what constitutes an “efficient” way is already established (a societal expectation shared by the majority). Hence, threat perceptions stemming from societal expectations and thus the aim of avoiding social losses should be much more dominant at the later stage. Actors will follow a myth because they do not want to be considered unmodern or irrational (Abrahamson 1996; Meyer and Rowan 1977; Tolbert and Zucker 1983; Gulati, Shortell, and Westphal 1997). In this regard, social identification (Czarniawska 2002; Sahlin and Wedlin 2008) and the signaling of information through the behavior of others (Piotti 2009) have been stressed as parts of the mechanism (for a review see Ordanini, Rubera, and DeFillippi 2008).<sup>5</sup> In any case, not following will make organizations appear unmodern and may result in a loss of social approval in the short term. The expectations of others outweigh economic reasoning, which is why the property of a story matters less than the number of “story-followers” and their expectations at a later stage. Therefore, expectations at a later stage are primarily of a social nature: they are anticipations of social losses. Although benefits “may become increasingly social rather than economic or technical” (Gulati, Shortell, and Westphal 1997, 374) at this stage, economic considerations could still matter since disapproval incurs material costs in the long run (Meyer and Rowan 1977).

In light of these considerations, we combine the ideal types presented by Tolbert and Zucker (1983) and Kennedy and Fiss (2009), and we hypothesize two different mechanisms of how stories affect the formation of expectations – and two outcomes: The

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5 Signaling is also prominent in “information-based theories of imitation” in economics that entail the theory of herd behavior and the idea of informational cascades (Banerjee 1992; Bikhchandani, Hirshleifer, and Welch 1998; Scharfstein and Stein 1990; Shiller 1995; see Lieberman and Asaba 2006 and Ordanini, Rubera, and DeFillippi 2008 for reviews). In basic terms, actors follow the majority because their actions convey signals about the value of a possible course of action. Here, however, actors do calculate and weigh incoming information. Hence, herd behavior is fragile and small shocks such as a public information release can dislodge an informational cascade – turning a fashion into a fad (Bikhchandani, Hirshleifer, and Welch 1992).

first mechanism, which we call “calculating gains,” produces expectations related to economic gains. The second mechanism, which we call “fearing social losses,” generates societal expectations and the anticipation of social threats (see Table 1).

What is our understanding of these two causal mechanisms and how do we analyze them?

In the social sciences, we find various concepts of mechanisms; James Mahoney (2001, 579–80) has counted no less than 24 definitions, focusing either on causal chains, intervening variables, or causal paths. As it goes far beyond the scope of our study to further elaborate on these variants, we adopt Jon Elster’s (1983, 24) broad understanding of mechanism-based explanations:

To explain is to provide a causal mechanism, to open up the black box and show the nuts and bolts, the cogs and wheels of the internal machinery. (Here the term ‘mechanism’ should be understood broadly, to cover intentional chains from a goal to an action as well as causal chains from an event to its effect.) ... A mechanism provides a continuous and contiguous chain of causal or intentional links, a black box is a gap in the chain.

With regard to the ontology<sup>6</sup> which informs how we proceed in our mechanism analysis, we adopt the probabilistic view suggested by Marcus Kreuzer (2016) and Tulia Falleti (2016). In contrast to the deterministic design supported by Derek Beach (2016),<sup>7</sup> the probabilistic concept of mechanism includes the initial condition (X), the scope conditions (in our analysis the timing, thus early vs. late adoption) as well as the outcome in the mechanism analysis (on which see Trampusch and Palier 2016, 439, 442 and Falleti 2016). Mayntz (2004, 244; italics by Mayntz) calls this “*generative* mechanism” analysis.

Table 1 specifies our two (generative) mechanisms, distilled out of the literature reviewed above, through which the swap story (X) affects local treasurers’ expectations (Y). In a nutshell, the two mechanisms differ in the following aspects:

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- 6 According to Hall (2003, 373–74), ontology contains “the fundamental assumptions scholars make about the nature of the social and political world and especially about the nature of causal relationships within that world. ... Ontology is ultimately crucial to methodology because the appropriateness of a particular set of methods for a given problem turns on assumptions about the nature of the causal relations they are meant to discover.”
- 7 In the deterministic view, “each part of a mechanism is conceptualized as an individually necessary element of the whole” (Beach and Pedersen 2013, 31). Hence, mechanism analysis concentrates on what “is constant in mechanism” (Mayntz 2004, 245). This leads to mechanism analysis being conducted in a mechanistic way by studying the “interactive influence of causes on outcomes and in particular how causal forces are transmitted through the series of interlocking parts of causal mechanism to contribute to producing an outcome” (Beach and Pedersen 2013, 25). In their review on the methodological literature on process tracing, Trampusch and Palier (2016, 442) argue that in the current debate authors can be grouped according to these two ontologies of determinism vs. probabilism. They argue that “this difference between viewing mechanisms as univocal links between X and Y or as ‘generative mechanisms’, as Renate Mayntz (2004, 245) puts it, has ... important implications on how process tracing is conducted” (Trampusch and Palier 2016, 442).

- What is the timing – is the story told to early or late adopters (scope conditions)?
- (a) Who are the main storytellers?
- (b) How do these storytellers present the story?
- (c) What is the motivation of actors listening to the stories?
- (Y) What is the content of expectations that are affected by the story?

These mechanisms share the initial condition (X), namely the swap story. The differentiation between these processes of expectation formation is ideal typical and should be regarded as an analytical distinction that will not be found in its pure form in the real world.

Table 1 Two mechanisms: How stories shape expectations

	Mechanism	
	(1) Calculating gains	(2) Fearing social losses
Story (initial condition, X)	Swap story	Swap story
Scope condition: Timing	Early adopters	Late adopters
(a) Storytellers	Financial analysts	The majority (financial analysts, other treasurers, city council members, local press ...)
(b) Story presentation	Quantitative information: Economic modeling and forecasting	Widely accepted: Common understanding about what is "rational" and "efficient" (a myth)
(c) Motivation	Cost-benefit calculation: Calculative tools reduce uncertainty over future outcomes by providing numerical predictions, categories, or causal theories	Societal expectations: Myth followers want to avoid social losses ("being left behind") and/or achieve social gains ("looking good," "being modern and efficient"; being part of the community)
(Y) Content of expectations	Anticipation of economic consequences dominant	Anticipation of social consequences dominant

Regarding mechanism 1 ("calculating gains"), which we presume will work for early adopters (scope condition), we expect the main storytellers to be (a1) financial analysts who (b1) present the swap story using economic models which provide scenarios and forecasting for the calculation of future economic gains and losses (story presentation). Furthermore, we hypothesize (c1) that treasurers should be able to formulate probabilities for the occurrence of different outcomes in the future after being exposed to such economic models. An orientation towards others should be absent in the empirical material (motivation). The predicted outcome (the content of expectations) is: material consequences in the future matter more than social consequences (Y1).

Regarding mechanism 2 ("fearing social losses"), which operates under the scope conditions of late adopters, we presume that we will see, besides financial analysts, other treasurers, city council members, and the local press, i.e., "the majority," occurring as storytellers (a2). These actors present the swap story as a widely accepted, rational, and efficient instrument for local finance and its non-use as unmodern. We therefore expect the presence of an unquestioned myth (e.g., statements such as "that is the way to do it")

or the dominance of the myth in the media) (b2). With regard to the motivation of the local treasurers, we presume that the treasurer is afraid of social disapproval from relevant others such as the regulator, a peer city, or the city council (e.g., statements such as “I don’t want to be perceived as old-fashioned or inefficient”), and we expect economic calculations to be lacking (c2). The predicted outcome (the content of expectations) is: social consequences in the future matter more than material ones (Y2).

In order to analyze the process of expectation formation empirically and test these two proposed causal mechanisms, process tracing is the most suitable method (Bennett and Checkel 2015). We employ a deductive variant of process tracing which aims at “checking with empirical case(s) analysis whether the theoretically elaborated causal mechanisms are indeed the ones explaining how X and Y are connected” (Trampusch and Palier 2016, 439). For deductive variants of testing for causal mechanisms via process tracing, the typical case selection strategy is often recommended (e.g., Beach and Pedersen 2013, 2016; Gerring 2007; Trampusch and Palier 2016, 448). Typical cases are cases “where both the X, Y, and the requisite contextual conditions are present” (Beach and Pedersen 2016, 4). Typical cases are chosen to “better explore the causal mechanisms at work” (Seawright and Gerring 2008, 299). The researcher investigates whether the evidence in the case validates the stipulated causal mechanisms or not (ibid.).

For our mechanism analysis, we have selected four cases as typical by decomposing the NRW population<sup>8</sup> according to our hypothesized scope condition, i.e., into early and late adopters, with the end of the year 2004 as the threshold (50 percent of adopters; see the next section for details). The determination of this threshold is based on the chosen period of investigation for this study, which lasts from 1996 to 2009, where 1996 is the first year in which swaps were used in NRW. We chose 2009 as the endpoint of the study due to data availability and because we know that after several municipal swap failures got attention from the media (and after the corresponding disclosure of failures of expectations) in the course of the Global Financial Crisis (GFC), most cities have refrained from adopting swaps. In the aftermath of the GFC, another factor that added to widespread reservations regarding swaps across NRW cities was the ECB’s low interest rate policy, which meant that the main purpose of swaps – to save interest on debt – was already achieved. Our early adopter cities, City 1 and City 2, adopted swaps in 1998 and 2004 respectively, while our late adopter cities, City 3 and City 4, began to use swaps in 2005 and 2006 respectively. All four cities share with almost every local government in NRW tremendous fiscal problems that became severe during the 1990s. While City 1 and City 2 are counted among NRW’s major cities, City 3 and City 4 rep-

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8 We focus on NRW alone due to data availability and societal relevance. In order to select typical early and late adopter cities, we needed a whole population of cases. As this could not be done for the whole of Germany, we have focused on one federal state. We selected NRW due to data availability (a comprehensive survey on municipal swap use carried out by The Association of Taxpayers in NRW (BdSt 2009) exists only for NRW) and because NRW is – with approximately 18 million people – the most populous federal state, meaning that the outcome of swap deals has a large societal effect.

resent medium-sized cities. The treasurers of the early and the late adopter cities do not significantly differ in their educational background and their professional experience: they share long careers in local politics and municipal finance. Although it is not the goal of the paper to measure or assess the performance of the cities' swaps, it might be important to note that apart from City 2, the cities were confronted with unexpected outcomes. Instead of expected gains, they booked losses from the swaps they executed.

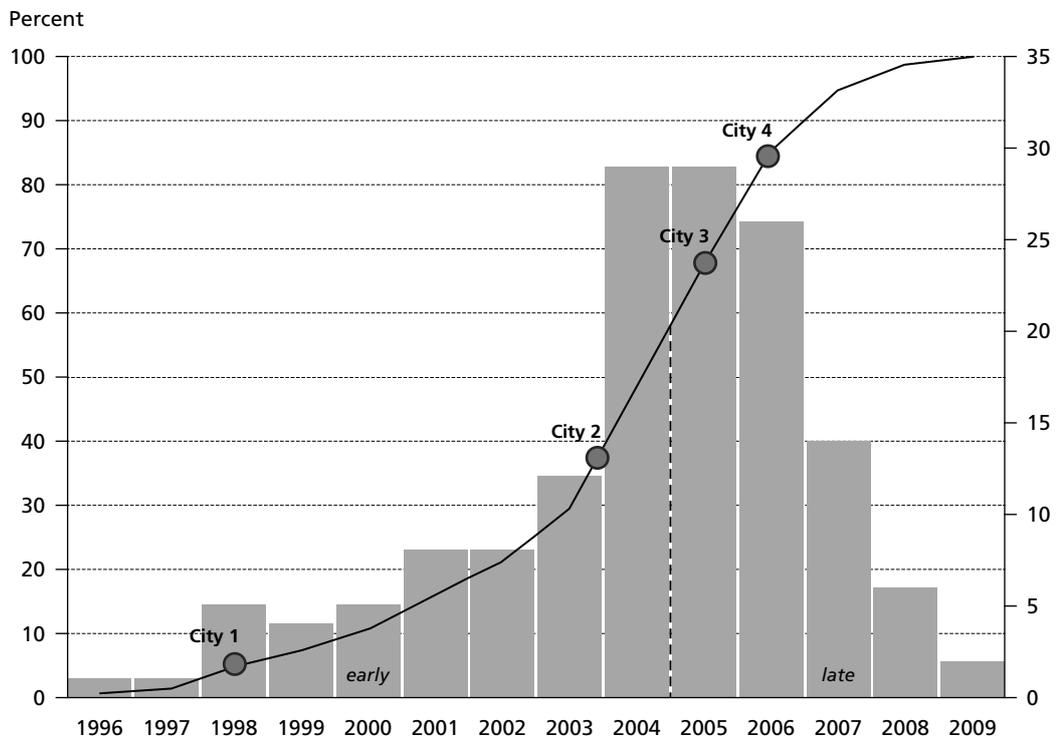
In order to reconstruct the story (X) and test the two mechanisms (scope condition, X, a,b,c, Y), we collected statistical data and conducted interviews with city treasurers of all four cities. In addition, we consulted court decisions, city council documents, and the regional and financial press (cf. the Appendix). Data sources and interviewees are presented in an anonymized form as the situations are still precarious for some of the actors involved and some court cases are not yet settled. Sources and interview transcripts are archived and available for traceability. We are aware that elite interviews have limitations and weaknesses with regard to the validity and reliability of the information they provide because in retrospective accounts, the interviewees may reinterpret their past behavior as well as their motivations (on which see Golden 1992). However, “[e]lite interviewing is ... well-suited to the process tracing method and widely accepted as an additional ‘potent source of data’ on the processes and mechanisms investigated if one interviews ‘first-hand participants of the processes’” (Tansey 2007, 767). Furthermore, in order to tackle the potential limitations of these interviews, we followed the recommendations suggested by Tansey (2007) and other method experts (quoted in his article), such as: analyzing not only one but several cases, cross-checking major information by written sources (such as the documents provided by the banks, the courts, city councils or the local press), carefully selecting our elites, and assessing the interviews by criteria such as “who is speaking,” “under what circumstances,” and “for what purpose are they speaking” (Tansey 2007, 767). Finally, we wish to raise the point that in non-experimental and non-quantitative social sciences, every interview is retrospective and by rejecting any use of expert interviews on past events, qualitative social science would lose its *raison d’être vis-à-vis* experimental and quantitative research. We believe this is an option which neither quantitative nor qualitative research would want to select.

### 3 Results

#### Swaps in North Rhine-Westphalian municipalities

As depicted in Figure 1, NRW municipalities were starting to approach OTC derivatives markets in the mid-1990s. In 2009, 150 of the 396 localities used these products. Based on the above-cited literature on the diffusion of ideas, two phases of derivatives adoption can be distinguished: an early phase lasting from 1996 to 2004, and a late phase lasting from 2004 until 2009. The cumulative adopter graph (solid black line) – depict-

Figure 1 The swap fashion in North Rhine-Westphalia, percent of adopters (left) and number of new swap users (right)



Note: N = 150 (correspond to approx. 38 % of all NRW cities).

Source: Own calculations based on Bund der Steuerzahler Nordrhein-Westfalen (2009), Kuhlen (2016) and supplemented by information obtained from local databases (Ratsinformationssysteme) and the local press using Nexis. If no information on the time of the first swap was available, the city was coded as having no swaps. Reporting of derivatives is not mandatory in Germany. We can assume that municipalities tried to hide their involvement in swaps, especially after losses occurred. Hence, this presentation should be read as approximation and the exact dates treated with caution.

ing the aggregated proportion of adopter cities over the study period from 1996 until 2009 – conveys a rather slow diffusion process in the beginning, with only 20 percent of the 150 cities adopting derivatives after the first six years, i.e., by the end of 2002. In the following four years, however, derivatives use soared rapidly: we observe an enormous increase in the rate of adoption with approximately 30 additional municipalities each year between 2004 and 2006, so that in 2005 more than 50 percent, and in 2007 almost 90 percent, of all adopter cities had agreed to a swaps transaction. Based on the ideal typical adopter categorization of Rogers (1983), the first 50 percent of the cities are described here as “early adopters” and the last 50 percent as “late adopters.”<sup>9</sup> In 2009, 150 cities had executed a swap transaction, which adds up to approximately 38 percent of all NRW cities.

9 This is a simplification of Rogers’ categorization which distinguishes between “innovators” (first 2.5 percent), “early adopters” (the next 13.5 percent), the “early majority” (the next 34 percent), the “late majority” (the next 34 percent), and “laggards” (the last 16 percent) among adopters (Rogers 1983, 245ff.).

This data and Figure 1 illustrate the diffusion of the actual use of derivatives. In the following, however, we are interested in the role of stories in the expectation formation of the public treasurers of the selected four cities, which led to their decision to buy swaps. Before we analyze the explicit influence of stories on expectations and what exactly made the stories credible in our four selected cases, we first examine the specific communicated narrative that projected a desirable future for the cities in more detail.

### The swap story: Regaining political leeway through swaps use in times of fiscal crisis

As defined in Section 2, a story necessarily consists of three main elements: a description of the present state of the world, a predicted future state, and a causal connection that provides the explanation for how the experienced “now” will be transformed into the projected future. Transferred to the empirical phenomenon under study, private and public sector banks increasingly presented municipalities with the option of interest rate derivatives such as swaps. They presented these as a promising means of alleviating their ongoing fiscal crisis, which had unfolded in the 1980s and worsened dramatically during the 1990s/2000s. Financial difficulties became more severe in the 1990s, when several cities in NRW lost sole responsibility for the budget (or budget autonomy), which had been a specific feature of cities in federal states compared to centralized states. Due to this financial distress, the cities were forced to fiscal austerity measures. They had to present budget consolidation plans (*Haushaltssicherungskonzept*, HSK), which had to be approved by the respective district government.

From the 1970s to the 1990s, municipalities made borrowing decisions under conditions of perceived certainty. Cities financed their budget deficits to a large degree by taking fixed-interest loans with at least 10 years maturity from their *Hausbank* (i.e., their principal bank – in most cases a local savings bank) independently from the current and anticipated interest rate structure. After taking out the loan, the treasurer waited until maturity and decided whether to extend or repay the loan. This long-established routine employed minimal expectational input, since it was based on the perception of an (interest rate) security resulting from long-term fixed-interest rates (Hopfe, Kummerow, and Lobers 2011, 375). Constant nominal interest rates over the whole term of the loan gave treasurers a solid basis of calculation as well as the security that increasing capital market rates were not causing a rise in the cost of borrowing. A treasurer always knew when and how much he had to repay, with the effect that the traditional way of handling debt meant long-term planning security (Stoffers 2014). The underlying idea – that the fixing of interest rates can be equated with avoiding any economic risk and can thus render the city immune to the vagaries of the financial markets – seemed to have maintained its grip for quite a long time.

In sharp contrast, according to the swap story which banks presented to local treasurers, every financial decision was risk afflicted and volatilities in financial markets provided opportunities rather than threats. If interest rates decreased during the maturity of a fixed-interest loan, the cities, according to the banks' narrative, would incur opportunity costs. An economically rational municipal debt management, on the other hand, would make it possible to actively and continuously exploit the optimization potentials and opportunities offered by financial markets through the anticipation of prospective interest rates movements. Such an innovative approach would thereby mitigate the repercussions of the accumulated local debt and would support the creation of increasing room for maneuver in future budgets. As the WestLB states, derivatives are central in this regard; they represent a plausible means for changing a disadvantageous situation into a promising future: "With the specific use of derivatives, interest rate payments can be reduced considerably and thereby financial leeway can be produced, which in turn can be used for the necessary investments" (Wahlers 2004, B5).

Twenty years ago, the (*experienced*) *present situation* of local governments that had to be transformed – demonstrating the bank story's starting point – was described by Deutsche Bank as one of financial paralysis: high indebtedness and the accompanying growing debt service were severely reducing the leeway to finance much needed investments and thereby the decision scope of local politics (Salchow 2000). The projected outcome portrayed by the banks was a situation in which the cities were put back into a position where they could act with financial autonomy and where they were able to finance their crucial tasks such as infrastructure. As a solution to the pressing problems and a way to attain such a promising future, the banks suggested the rationalization of local debt policy as an alternative to austerity measures. This could be achieved mainly through the exploitation of swaps as the key instruments that would enable cities to execute a more flexible debt management. Besides derivatives use, this new approach consisted in a continuous observation of the market, the use of variable interest rate loans, foreign currency loans, and the introduction of a risk management framework. However, especially on the municipal level, derivatives such as swaps are the most important element of debt management (Trampusch and Spies 2015). This would help to lower the growing borrowing expenses in a safe and politically painless way. Thus, *swaps represented the causal bridge* between the present situation (financial paralysis) and the *imagined future state (financial relief/political autonomy)*: "All in all an increasingly active finance and debt management is imperative for municipalities, in order to reduce the interest burden and thereby create relief in cities budgets" (VÖB 1995, 29). Following this narrative, banks framed cities' existing high interest burden as the result of missed opportunities. As a result, banks tried to persuade their public-sector clients of a new interpretation<sup>10</sup> of their debt situation that fundamentally differed from their traditional view. As will be shown below, public agencies and other bodies joined the chorus soon after and the swap story became the dominant narrative in municipal finance.

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10 See Fastenrath, Schwan, and Trampusch (2017) for the shift in the sense-making frameworks in debt policy at the central government level.

Against this background of massive differences in character between the old and new debt policies, it is far from self-evident that municipalities followed the story presented by the banks. Rather, it confronted municipalities with a large degree of uncertainty when they decided to use swaps. Most treasurers had little practical experience with these instruments that obviously required a rethinking of old routines. Derivatives use meant leaving the well-known path of decision making under perceived certainty for the achievement of a promising, but also uncertain, future. Now city treasurers needed to form their own estimates of expected interest rates in the attempt to realize higher interest savings. However, it is in the nature of these instruments that their eventual outcome is always uncertain.

Having outlined the swap story as our explanatory variable (initial condition), in the following we test specific mechanisms that help us to understand how a bank could reduce city treasurers' uncertainty, i.e., how it "has been able to convince its clients" (WestLB 1999, 36) of the swap story and shaped their expectations. In the next section, we analyze whether the hypothesized "calculating gains"-mechanism was present in the early adopter cases of City 1 and City 2.

### Early phase (Cities 1 and 2): Modeling, forecasting, and anticipated economic gains

In the early phase of swaps adoption, banks were not only the originators (VÖB 1995) of the story, but also its main tellers. In an attempt to increase its market share in public-sector finance, Deutsche Bank, for example, installed seven centers of expertise across the country, which "were specifically oriented towards the needs of municipalities" (Deutsche Bank 2000; see also Handelsblatt 2000).<sup>11</sup> This facilitated a systematic and more targeted distribution of the swap story through bank advisors on site. Not only national but also international banks directly contacted German municipal authorities, sent information brochures (Commerzbank 1999; VÖB 1995), and presented the swap story in person. From the late 1990s, the banks' story was increasingly knocking on open city hall doors. Through direct contact with the banks, the story was brought into the cities' administrations in 1998 (City 1) and in 2004 (City 2) respectively. As hypothesized, the main motivation of the cities' treasurers to listen to the banks' story was the hope of improving the performance of their debt administration tasks in this early stage. They were seeking efficiency gains, not least because a large proportion of their accumulated debt was attributable to interest rate payments. At a time of massive budget cutbacks in the face of growing deficits, both cities were desperately in search of any savings potential that could contribute to fiscal consolidation (in order to comply to the

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11 The bank also organized large events such as the "Zukunftstag 2000 – Gemeinden und Regionen," attended by 650 municipal representatives, where the bank provided information about the opportunities in debt management, amongst other areas (Handelsblatt 2000).

proposed and authorized HSK).<sup>12</sup> As the treasurer of City 1 put it: “The city fears being pressed down by the huge mountain of debt ... We don’t have the money to pay interest and in order to do this we have to get new short-term loans and that’s why the snowball rolls faster and faster” (regional press). During the 1990s, City 1 already took serious measures to consolidate its budget, which included modernization initiatives such as the transformation of the city administration into a service provider in accordance with the German version of New Public Management reforms in 1994. The treasurer further argues that the reason for already applying swaps in the 1990s was to reduce borrowing costs (regional press).<sup>13</sup> The authorities of City 1 carried out more than thirty derivatives transactions between 2001 and 2005 alone (City 1 court decision). They were even open to complex derivative products offered by Deutsche Bank such as spread ladder interest rate swaps that include a risky leverage effect. The treasurer mainly aimed to reduce crippling debt: either through the use of swaps or through any other means (City 1 court decision). The cities’ motivation was mainly the perceived opportunity to achieve economic gains and the content of the expectation was mainly anticipated interest payment reductions.

Similarly, in the case of City 2 – burdened with an accumulated debt of 92 million euros in 2004 – the city officials’ expectations were governed by the hope for material gains: “The city administration expects a not inconsiderable amount of interest savings from a successful active interest rate management” (City 2 official document). Earning money from the volatility of interest rates is what the then-treasurer expected from using swaps (regional press). Similar to City 1, the city was open to different complex derivatives such as ladder swaps or foreign currency swaps which had been offered by Commerzbank in 2004 and which the banks had promised would reduce borrowing costs.<sup>14</sup> Thus, the content of the expectational outcome was of a material nature: both cities anticipated positive material consequences from the use of swaps in the form of (large) interest savings.

There is a considerable amount of evidence for the presence of the mechanism in the early adopter cities, as predicted above. Both cities were exposed to and used calculative devices, had different future scenarios present, and came to the conclusion that the risk from the instruments was limited and controllable. Together, these factors built up confidence in conditions of uncertainty. In both cases, the banks (Commerzbank and Deutsche Bank) presented swap instruments based on mathematical formula. City 1 calculated different future scenarios by using the formula and filling it with parameters resulting from imagined future market rate developments in order to prognosticate the respective possible outcomes. They calculated with advantageous as well as with

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12 City 1 had to present HSKs from the early 1990s and City 2 since 2003.

13 From here to the end of the paper, the following refers to sources explained in the appendix: “regional press,” “City X interview,” “City Y court decision,” and “City Z official document.”

14 They also entered into these deals with Commerzbank until the first scandals became public (City 2 interview, September 2016).

adverse interest rate developments. These calculations as well as the banks' presentation of the swaps' advantages clearly reduced the perceived uncertainty inherent in these transactions. More specifically: the prognoses transformed uncertainty into perceived controllable risk. The city believed that the risks were limited and under control, not least due to the formulaic depiction of the swap properties (City 1 court decision) and to the fact that the banks' informational material included only a limited sample of historical data. Deutsche Bank plotted the development of the spread between the 10 month Euribor rate and 2 month Euribor rate of the past ten years in a graph, which excluded any inverse yield curve phases. This presentation led the city to belief that the long-term interest rates would continue to be slightly higher than short-term interest rates in the upcoming years. They therefore considered the probability of the occurrence of an adverse development (decreasing spread) in the future to be rather low (City 1 court decision). According to the city's credible statements to the court, bank advisors downplayed the possibilities of losses as well: the advisor underlined that the negative scenario would not occur on the basis that this has never been the case in the previous years: "with probability bordering on certainty the risk will not materialize" (City 1 court decision). So sure were the city authorities of the deals' positive outcome that they waived a risk ceiling (cap), which would have meant restrictions on possible losses, but simultaneously a reduction of potential gains (City 1 court decision).

In City 2 as well, the swap story appeared credible in light of information on the historical development of the yield curve:

In the last thirty years it was observable that long-term interest rates have always been higher than short-term interest rates; there was only one phase of an inverted yield curve around the reunification ... therefore, and because of lower short-term interest rates, the administration decided to manage the city's debt actively. (City 2 official document)

The city gathered debt management concepts and offers from different banks before they decided to use swaps. The presentation by Commerzbank on their "active debt management" concept, made to the city in early 2004, convinced the authorities as it best reflected the cities' needs (City 2 official document).<sup>15</sup> Its content gives further evidence that the swap story produced economic expectations (interest payment reductions) as predicted by the "calculating gains" mechanism. Commerzbank embedded the swap narrative in economic models and simulations of different future interest rate scenarios. Through these estimations and calculations, the bank underpinned the narrative with concrete information on future outcomes that seemingly convinced the city officials: They gave Commerzbank the advisory mandate for debt management issues and entered into derivative deals with the bank (City 2 interview, September 2016). Interest rate savings after optimization through swaps were depicted without any reference to possible risks: through the use of a "Doppelswap" on an existing fixed-term loan raised from Sparkasse in 1997 with a maturity until 2005, Commerzbank prog-

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15 The city also contracted several derivatives with the bank in the following years: "The have offered several useful instruments" (City 2 interview, April 2016).

nosticated an interest rate reduction of 44,000 Euros, and by entering into a “Leveraged Schweizer Franken Carry Swap” based on the same loan, the bank predicted savings of as much as 73,000 Euros. In order to optimize an existing variable loan at 3-months Euribor as the reference interest rate, the bank suggested a “Leveraged Spread Swap” that included – as the name suggests – a risky leverage effect. The bank calculated that while the city received the 3-M-Euribor from the bank (which thus equaled the interest it needed to pay Sparkasse), the city had to pay “ $1.80\% + 5x(12\text{-M-Euribor} - 3\%)$ , if  $5x(12\text{-M-Euribor} - 3\%) > 0$ ” to the bank. The bank promised that a significant savings potential would result from such a transaction. These forecasts presented swaps as the rational solution to existing problems and motivated the officials to act as though the interest rate would develop in the promised manner (City 2 interview, September 2016). While these prognoses focused on the potential economic gains, they obviously downplayed possible risks and resulting losses (City 2 official document; City 2 interview, September 2016), a fact that seems to be characteristic of the early phase of derivatives adoption (Stoffers 2014). The advisory mandate given by City 2 to Commerzbank also included continuous reporting on market developments and analyses always included a projection of future earnings that helped the city to form expectations regarding swap deals. Before the city has agreed on the first contracts, city officials viewed the incurring of losses as a calculable risk and expected interest savings to the amount of 500,000 Euros until 2009 (regional press).

We found almost no evidence for an orientation of the two cities towards others. Although in the early phase informal exchanges between single cities cannot be totally excluded, our selected cities seem rather to have calculated the costs and benefits of the introduction of swaps independently from others. Furthermore, City 1 was widely praised for its innovative debt reduction program from which it could be concluded that the city anticipated positive social consequences with the introduction of swaps, such as being perceived as a pioneer. However, the existing material does not support such a claim; rather, it indicates that economic considerations were predominant. The same holds true for City 2. Although Commerzbank pointed to successful reference cities in its presentation, City 2 was the first city to use swaps in its region and had the self-perception of being a pioneer, independent from others.

To sum up, the “calculating gains” mechanism could be traced in both cases. Treasurers of the early adopter cases under study were both willing to hear what the banks (as main storytellers) had to tell because they were seeking efficiency gains due to their crippling debt burden (motivation). They were both persuaded by a story told in times of crisis projecting a desirable material future (expectational outcome) because of calculative devices (properties of the story) that focussed on economic benefits and encouraged the perception that risks were under control. In the next section, we analyze whether the “fearing social losses” mechanism is present in our two late adopter cases.

### Late phase (Cities 3 and 4): An unquestioned myth and fearing social losses

As can be seen in Figure 1, more and more municipalities introduced derivatives. After the sharp increase in the rate of adoption starting in 2003, a critical number of adopters (the threshold of about 50 percent or 73 adopters) was reached at the end of 2004. Thus, when City 3 and City 4 introduced swaps in 2005 and 2006 respectively, the swap story had already become popular in the municipal landscape. Municipal practitioners report that in the 2000s “it was seen as modern to transform fixed interest loans into variable loans through derivatives. ... Generating savings ... was the motto in times of ‘derivatives-hype’” (Stoffers 2014). Beside the cities’ peers, there were further crucial actors who became additional storytellers. Leading municipal associations such as the North Rhine-Westphalia Local Authorities Confederation (StGB NRW), the German Association of Cities, the Government of the State of NRW (Ministry of the Interior and Municipal Affairs) and supervisory as well as auditory agencies in North Rhine-Westphalia (the *Kommunalaufsicht* and the *Gemeindeprüfungsanstalt NRW*) all contributed to the widespread perception that using derivatives was a necessary component in the efficient handling of local debt. For instance, the StGB NRW regularly organized seminars together with WestLB starting in 2005, where the banks could tell their story to hundreds of local decision makers and where early adopter cities reported their successful experiences with the products. Officials such as the mayor of City 3 attended such events and stated that the different possibilities of derivatives usage were explained and always presented in a positive light (City 3 interview, February 2016). In addition, the association distributed success stories through its regularly published magazine, which helped to underpin the common impression. The swap story gained additional credibility from regional authorities through systematic recommendations by the *Gemeindeprüfungsanstalt* (GPA) NRW and by two decrees (*Runderlasse/Derivateerlasse*) issued by the Ministry of Interior of the State government in 2004 and 2006 (City 3 interview, February 2016; City 4 interview, March 2016). The supervisory agency GPA NRW, newly founded in 2003, explicitly distributed the swap story across many municipalities: “Between 2004 and 2006 the GPA NRW showed those municipalities various possibilities of optimization including the utilization of derivatives, where the agency found considerable shortcomings regarding a modern interest rate and debt management” (Jäger 2011). The Ministry’s decrees were not formulated as compulsory, but rather as a recommendation: “They slightly nudged us” (City 4 interview, March 2016). All in all, as hypothesized, the swap story developed into a common understanding or a social expectation among the relevant actors in the field during the 2000s and was perceived as such by the officials of City 3 and City 4. The use of derivatives was “widely understood to be a necessary component” of a rationalized debt policy. Societal expectations are evident in statements from treasurers such as “We were just jumping on the bandwagon, as others already had” (City 4 interview, March 2016) and “We were swimming with the tide” (City 3 interview, February 2016).

The additional storytellers reduced the initial perceptions of uncertainty relating to swaps and created pressures to conform. As proposed by the “fearing social losses”

mechanism, orientation towards the relevant others and the exposure to an existing consensus regarding the use of swaps motivated the late adopter cities to listen to the swap story. In both cities, requests from members from the city council served as an impetus in this regard:

Then, suddenly, the discussion was raised by politicians from the main committee: Are we running our municipal finance business similarly to the major cities, which employ staff solely for the observation of financial markets and who are working with so-called derivatives? Are we doing that in City 3, too? ... If the others do it, we can't just stand by and watch. If there are any possibilities to resist our rising debt – to oppose it with positive measures – with certain kinds of business on the other side, we should do it. (City 3 interview, February 2016)

While politicians in City 3 pointed to the choices and professional adoption of the innovations of major cities, in City 4 the county was the point of reference: “The county is doing it, and at the last county meeting their treasurer reported that he has generated considerable profits. Why are we not doing it here?” (City 4 interview, March 2016). In addition, the WestLB advisor offered swap deals while mentioning that City 4 would very soon be the only municipality in the region not adopting the innovation (Court decision City 4).

With the order from the council to obtain information about relevant possibilities, the treasurer of City 3 contacted the *Hausbank* (savings bank), which coordinated an initial meeting with WestLB and the treasurer of a neighboring city. As was the case in the early adopter cities, the bank worked with historical data and graphs; it presented “the wide world of finance such as the development of the Euribor, Dollar or of the Swiss Franc,” brought it down to the city’s needs (City 3 interview, February 2016) and used scenarios in order to forecast possible future outcomes. According to the treasurer, the bank dismissed the negative scenarios they displayed as “nearly impossible” (City 3 interview, February 2016). Yet what was more important for City 3 than the properties of the story itself, was its trust in the advisors of their *Hausbank* (savings bank), resulting from its long-term relationship with WestLB. The savings bank advisors were present at every sales meeting with WestLB and were perceived as the cities’ security. The reason was simply that the treasurer was convinced that he and his colleagues in the administration did not possess the appropriate depth of knowledge to fully grasp the complexity of the financial products: “We just lacked the expertise to do such business” (City 3 interview, February 2016). Thus, the inability to calculate was compensated for by the reliance on the expertise of trusted others. In City 4, similar calculative devices were presented. However, the city lacked the know-how to assess the possible calculations stemming from a “scenario calculator” provided by WestLB (City 4 court decision). After initial skepticism, it seemed that City 4 widely accepted the story, since it perceived the swap agreements as simply “safe transactions” (City 4 interview, March 2016).

The treasurer of City 3 agreed to the swaps in the first place because he was confronted with disapproval for failing to conform to societal expectations:

I have to admit, it was a really bad time for me. I was mad at myself because I had been misled by politicians and their talk and I had the impression the politicians from the city council thought we were stupid because the municipalities around us were doing this business. Why are you not doing it then? And why are you not capable of doing so? Under pressure, I was misled into doing it ultimately, just to realize that I should have better kept my hands off it after all. (City 3 interview, February 2016)

Thus, for the treasurer, the anticipated social loss resulting from being perceived as incompetent by the members of the city council were more important for following the story than potential economic gains. The same holds true for City 4. However, here it was not only the council, but also the highly respected county treasurer whom they feared to disappoint:

The treasurer of the county, who was a strong proponent of derivatives use and who had already engaged in this for years – he started with Yen etc. – blamed us for being backward ... he told us how much money he earns with active debt management. ... He was a complete expert. Yeah, and when we sat together with him, I got a guilty conscience for not having done it for my own city. And then later, in the course of the consultations by WestLB, what I'd heard earlier from him just got confirmed. (City 4 interview, March 2016)

It was the personal story of successful transactions that enhanced confidence, rather than the story's properties. As in City 3, the story produced an anticipation of social consequences that outweighed considerations of expected economic gains in City 4. This is particularly noticeable by the fact that in 1999 a first attempt by WestLB to convince the city of swaps failed. The city rejected the proposals and remained reluctant for many years. Only additional storytellers and their expectations prompted the treasurer to follow the swap story: "For many years I had inwardly struggled and resisted doing these things. But later on, at some point I could do nothing else than put them into practice" (City 4 interview, March 2016). It was not the pressure to economize, but rather the peer pressure exerted by others. Accordingly, the anticipated social losses that would have followed a continuation of non-adoption overrode expectations of interest savings.

#### **4 Conclusion and discussion**

This paper has demonstrated the importance of stories in the formation of expectations in the case of swaps use among local governments in Germany. The reason for the rapid spread of complex financial instruments among city treasurers is strongly connected to the swap story, whereby treasurers were told that swaps would transform the present municipal state of fiscal stress to an imagined future state of more fiscal leeway. In order to account for this causal relationship, thus how the swap story's narrative structure links these two images of the municipalities' present and future fiscal situation, we hypothesized that stories affect expectations by means of two analytically distinct mechanisms – "calculating gains" and "fearing social losses" – both of which operate under

different scope conditions (early vs. late adopters). Conducting theory-testing process tracing, we found confirming evidence for these two mechanisms in four typical cases, two cities representing the early phase (City 1 and City 2) and two representing the late phase (City 3 and City 4) and in which the X and Y were present.

We found support for the importance of calculative devices such as financial analysts' economic modeling, simulations and forecasts – that underpin the swap story – in the formation of primarily economic expectations in City 1 and City 2. In particular, the presentation of forecasts by the banks as the main storytellers was embedded in a narrative that persuasively focused on the future economic gains arising from swap agreements and neglected their potential downsides to a large degree. Possible disadvantageous economic outcomes were characterized and perceived as calculable events, to which very low probabilities of occurrence were ascribed. Simulations of debt portfolio developments based on market prognoses produced concrete projections of future savings resulting from different swaps, while neglecting the perceived likelihood of losses. These calculative devices made the swap story credible and shaped economic expectations in City 1 and City 2. As late adopters, City 3 and City 4 introduced swaps at a point in time at which the swap story was already established as “state of the art” in German municipal finance. The derivatives trend was characterized by more than a hundred local governments that have used the instruments as the normal means of managing their local debt until the mid-2000s. Furthermore, powerful actors from the field, such as State governments, leading city associations as well as supervisory and auditory authorities, entered the scene as proponents and additional storytellers. Although calculative devices were not absent, there are several indications of a greater significance stemming from interdependencies, such that anticipated future social losses seem to have been pivotal for Cities 3 and 4. Success stories of other municipalities were repeatedly told by banks and peers (City 4), local politicians pointed to the successful practice of other cities (City 3 and City 4) and the regulator both recommended the practice and initiated a concrete institutional framework (City 3 and City 4). As a consequence, late adopters were able to overcome uncertainty by embracing the view of the relevant others, which lent the original story told by the banks the required credibility. In addition, treasurers of City 3 and City 4 felt pressure to behave appropriately and were afraid of being perceived as backward or lagging behind in the future if they continued to reject the introduction of swaps.

Our results have several implications. First, the role of stories in the formation of expectations (Beckert 2016; Emirbayer and Mische 1998) and economic developments (Akerlof and Shiller 2009; Holmes 2009) has attracted the interest of both sociologists and economists. While it is widely acknowledged that stories are decisive in the projection of imagined future states, we know little about the exact causal relationship between a story and the consequences actors' anticipate for their actions. This paper addressed this connection and provided an answer to the question of how such imaginaries of the future function (Beckert 2013). Our four case studies of swaps in municipal finance support the proposition of the existence of two analytically distinct time-dependent causal mechanisms governing how stories contribute to the production of expectations

in the context of financial innovations: by “calculating economic gains” (at an early adopter stage) and by “fearing social losses” (at a later stage). Furthermore, we found that these two mechanisms also led to two different manifestations of expectations: *economic expectations*, on the one hand, are actors’ beliefs about the material consequences of a potential action-course (e.g., higher savings, efficiency) and are dominant at an early stage as a perceived opportunity. *Societal expectations*, on the other hand, are actors’ beliefs about the social consequences of a potential action-course (e.g., evaluation by others) and are dominant at the later stage as a perceived threat. In the latter case, the expectations of others outweigh economic reasoning, which is why the properties of a story matter less than the number of “story-followers.” We do not claim that these two mechanisms are exclusive or that calculation disappears in later stages of story diffusion. Rather, the ideal-typical distinction highlights two analytically distinct processes of expectation formation involving the same story as the independent variable but resulting in different contents of expectations.

Second, our analysis echoes the need for a clear distinction between the economic literature that emphasizes how financial market actors’ irrational behavior reflects innate psychological biases (Akerlof and Shiller 2009) or public signals (Bikhchandani, Hirshleifer, and Welch 1992) and the literature in organization theory on the diffusion of “myths,” “fashions,” and “fads.” In this regard, it is important to note that the “fearing social losses” mechanism (imitation), which unfolds in the late diffusion phase, is not the same as herding behavior understood as either a virus or a signaling process. Imitation here is not an automatic process that unfolds like a virus, but rather a genuine social process: actors observe others and expect social gains from following a widely accepted story. Nor is imitation a signaling game, whereby interpreting the signals of the majority’s behavior and the consequences of this behavior are revealed to potential followers. Following the herding argument, City 4 would have revised its expectations and decisions regarding derivatives when the swap fiasco of its neighboring city became public (leading to losses in the millions). This was, however, not the case: the treasurer followed the existing fashion and interpreted the losses as an extraordinary event of individual failure (City 4 interview, March 2016). This allows us to derive an interesting starting point for further research: How should we analyze the resilience of expectations once they have emerged as an institutionalized fashion? What happens if anticipated expectations do not materialize in the future and are instead followed by disappointment? What role does the media play in covering financial scandals on changes in expectations?

Third, since the focus of this paper is on the causal mechanisms through which stories affect public finance directors’ expectations regarding and their decisions to introduce financial innovations, it makes a contribution to the still thin literature on the financialization of the (subnational) state and its debt management (e.g., Fastenrath, Schwan, and Trampusch 2017; Pacewicz 2013; van der Zwan 2014, FN 13; Trampusch 2015; Wang 2015). Our paper is a first step toward revealing the causal forces behind this process. Our results suggest that a story originating in the financial sector generated

a shift in the sense-making of public officials (Fligstein, Brundage, and Schultz 2014) and thereby paved the way for the logic and practices of financial markets to enter into the public sector. It is important to note that municipal derivatives use can be observed not only in Germany, but rather on an international scale. As the typical cases for the late adopters in this study demonstrate, in order to understand why local governments financialize it is not sufficient to consider the client–broker or bank–municipality relationship. If we want to understand the whole (temporal) unfolding of this financialization process, we need to take into consideration a broader actor constellation that helps us to grasp why municipalities made their budget dependent upon financial market uncertainties.

## Appendix

### Interviews

The semi-structured interviews were conducted with city officials between February and November, 2016. Each interview lasted between 60 and 90 minutes and was held in German. All statements are reported anonymously, so citations cannot be linked to the interviewee or the city they worked for. Translations of German quotations are our own. Anonymous transcripts or notes containing longer passages of the quoted text are available on request.

Interview	Date
City 1	November 4, 2016
City 2	September 12, 2016
City 3	February 29, 2016
City 4	March 3, 2016

### Other sources

We analyzed court decisions resulting from litigation between cities and banks as well as official documents, all of which we have anonymized. We also systematically consulted the regional press of each city we investigated.

Source	City
Court decisions	City 1, City 4
Official documents	City 2
Regional press	Cities 1–4

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