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# Public Debt Management between Discipline and Creativity. Accounting for Energy Performance Contracts in Germany

*Lisa Knoll & Konstanze Senge*\*

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**Abstract:** »*Öffentliches Schuldenmanagement zwischen Disziplin und Kreativität. Energie-Einspar-Contracting in Deutschland*«. The determination of government debt levels is a complex multilayered process subjected to constant reform. In the aftermath of the 2007-8 financial crisis, a twofold reform trend has emerged. On the one hand, the European Commission demands and supports stronger harmonization of national accounts, thereby eliminating loopholes for creative accounting practices such as public-private partnerships or swap deals, which increase government debt levels in many cases. On the other hand, the European Commission demands and supports new forms of 'creative financing' such as Energy Performance Contracts (EPCs), a specific form of public-private partnership designed to meet climate change investment goals. Adopting a lens of French Conventionalism, we highlight conflicts within statistic and accounting frameworks and their moral-political trajectories. We derive insights into these broader conflicts by examining the concrete case of national statistics and public sector accounting practices in the German EPC field.

**Keywords:** Public-Private Partnerships, public sector accounting, national statistics, European Stability and Growth Pact, Maastricht Treaty, fiscal discipline, creative financing, conventions of quantification.

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## 1. Introduction

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Government debt levels are important indicators under the European Maastricht regime installed to ensure fiscal discipline among the European Member States. In the aftermath of the 2007-8 financial crisis, this regime became unstable. It became obvious that states had been using many practices to hide their real debt and deficit levels with the help of professional public-private co-financing arrangements (Benito et al. 2008; Morales et al. 2014). Today, the

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European Union and its most important institutions – the European Central Bank, the statistical office of the European Union Eurostat, and the European Commission – are seeking solutions and instruments to reinstate fiscal discipline in the era of prolonged government bond purchasing programs *and* foster economic growth by stimulating real economy investments. This is a complicated task under the condition of the European consolidation state (Streeck 2015), which renders government investment programs difficult, even though money is cheap in the bond markets due to the European Central Bank’s purchasing program.

In this article, we analyze the ambivalent consequences for public sector accounting of this paradoxical situation which demands real economy investments *and* fiscal discipline. We observe a need for greater accuracy and international harmonization of national statistics regulated by the European system of national and regional accounts (ESA) on the one hand, and a growing demand for flexible and ‘creative’ public-private co-financing arrangements on the other hand, which enable the public sector to engage in off-balance sheet accounting following the rationality of the International Public Sector Accounting Standards (IPSAS). In this context, a range of new practices emerges, to optimize public sector accounts that render it increasingly difficult to distinguish between public and private investments; yet, this unbundling is necessary to determine objective public debt and deficit levels under the Maastricht regime regulated by ESA. In the course of New Public Management reforms, many public administrations implemented accounting rules as suggested by the IPSAS (Adhikari and Gårseth-Nesbakk 2016). These reforms allowed public administrations to consider the market values of their properties and to understand them as sellable and manageable risks (Eyraud 2016). This development gave rise to huge array of public-private mixed investment forms that promise rational risk transfer options between the public and the private sector (e.g. Jupe 2012). Public-private partnerships (PPPs) and their liability structures render public sector debt and deficit levels manageable. In the UK, a rather extreme example, the interplay between European National Statistics and International Financial Reporting Standards (IFRS) for private companies allowed off-off-balance sheet investments, which led to PPPs that appeared neither on the accounts of the public purchasers, nor on the financial statements of the operators (Heald 2011, 227). These creative accounting practices are possible, because the IFRS, IPSAS, and ESA frameworks have little overlap. What is accounted for in Eurostat’s National Statistics under the Stability and Growth Pact does not necessarily correspond to the financial statements of public sector entities, especially when they become more heterogeneous over the course of an ongoing reform process (Heald and Georgiou 2011; Adhikari and Gårseth-Nesbakk 2016). In Germany, the situation is unique in the sense that the European system of national and regional accounts (ESA) and the German “Schuldenbremse” (brake on debt) are based upon different systems. The national

Schuldenbremse is based on cameralistic and cash-based accounting which does not focus future liabilities and related risks (Schmid 2007, 111-3). Here, PPPs are attractive financing tools, since they align with a buy now, pay later attitude. Under the European Maastricht criteria, PPPs are evaluated as deals which sell future public risks to private parties. If the statistical officials conclude that this is not the case, they become to be accounted for as public sector investments. Thus, public sector accounting and national statistical frameworks need to be understood as constructive vehicles by which public investments under budgetary constraints can be managed positively, depending on the institutional frameworks and trajectories of different countries. It may also be deduced that this flexibility is necessary under a regime of strict budgetary constraints, which would otherwise allow much less public sector investment activity.

We analyze these contradictory public sector accounting trends (discipline and creativity) by digging into the specific case of Energy Performance Contracts (EPCs) in the German context. EPCs are specific PPP-like co-financing arrangements designed to sell the performance risk of an energy efficiency investment to a private party. The energy service company guarantees energy savings by which the investment can later be refinanced. The private party receives a return on its investment only after the a priori monetized performance target is achieved. EPCs have existed since the early 1990s, but their treatment in public sector accounts has been changing in the wake of current European and German public sector reforms. By recapitulating the various budgetary treatments of EPCs in Germany, we identify a conflict within the public sector accounting world between a more distant accounting practice aimed at trying to identify risks in a conservative and neutral manner, and a more hands-on accounting practice focused on the details of individual contracts to enable individual risk assessment. PPPs more generally, and EPCs in particular, require individual risk assessment to determine whether they will affect government accounts or can be recorded off government balance sheets. In this respect, accounting frameworks and their interpretations of risk can vary greatly within Germany.

We analyze these conflicts from the perspective of French Conventionalism, which argues that state statistics and public sector accounting reveal the historical political trajectories and political philosophies of how to manage a 'good' economy (Desrosières 2003). Our case shows how the philosophies enshrined in quantitative devices can be interpreted differently at the local level (Eyraud 2016). Our study displays conflicts in the treatment of EPCs in government accounts and in national statistics in Germany. The argument is structured as follows: First, we describe the general contradictions concerning PPP accounting in the context of the European crisis with a special focus on EPCs. Second, we present our analytical perspective of conventions of quantification in the tradition of Alain Desrosières. Third, we apply our analytical framework to

examine disputes in the German accounting context, with a specific focus on the treatment of EPCs. We end with a conclusion on the difference between a liberal and a neoliberal statistical convention and their specific ways of determining and controlling risk.

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## 2. Accounting Frameworks under Reform

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The European system of national and regional accounts (ESA), the instrument used to control and monitor the European Stability and Growth Pact, has been subject to continuous reform since it was first published in 1970. It was developed from the Keynesian international System of National Accounts (SNA) established after the Second World War, and it was reformed in the course of European monetary integration. ESA 1995 (enforced in 2002) was considered necessary to provide “harmonised and reliable statistics” in order to “achieve the objectives set by the Treaty on European Union, and more specifically Economic and Monetary Union” as stated in the introduction (ESA 1995, 1). What was considered especially necessary was the harmonization of the gross national product (GNP) to define the national debt and deficit levels, as committed to in the Treaty of the Monetary Union. The Maastricht Treaty signed by Member States in 1992 demanded the harmonization of national data gathering and production processes, since one of the obligations of the treaty is to provide “sound public finances and monetary conditions” (Article 3a), with debt limited to 60 percent of GDP and annual deficits no greater than 3 percent of GDP. Furthermore, the treaty prohibits Member States borrowing from national or European central banks (Article 104), and the Lisbon Treaty enforced in 2009 prohibits solidarity between Member States in cases of default (Article 135). European Member States are obliged to obtain financing from private banks to ensure exposure to the mechanism of market discipline. These regulations are intended to impose an *indirect* European control mechanism, which is accompanied by *direct* control mechanisms of statistical control and regular publication of debt and deficit levels. The 2007-8 financial and fiscal crisis again spawned a need for reforms and led to significant expansion of the ESA framework. ESA 1979 (a revised version of ESA 1970) has 238 pages, ESA 1995 (enforced in 2002) has 420 pages and ESA 2010 (enforced in 2014) has 634 pages. These enlargements are not merely technical, but driven by political and socio-economic constellations that need to be understood.

We claim these enlargements have to do with a twofold trend of more discipline *and* more creativity in public sector financial accounting. In response to the financial and fiscal crisis, European accounting rules have been reformed to prevent legal loopholes for the “creative accounting” practices necessitated by “creative financing” techniques such as using PPPs as vehicles to hide public investments (Benito et al. 2008), or the more famous (and tragic) case of

Greece, where public debt levels were sold to a private bank via a clandestine currency swap to enable Greece to meet the Maastricht criteria (Morales et al. 2014). Later, this deal became incredibly expensive to the Greek and the European taxpayers.<sup>1</sup> One reaction to the financial and fiscal crisis thus was the strengthening of statistical data. At the international level, the G-20 Data Gaps Initiative was launched in 2009;<sup>2</sup> and at the European level the ESA 2010 reforms were aimed at harmonizing the determination of public debt and deficit levels in the post-crisis era. ESA 2010 “has 11 new chapters...which reflect developments in measuring modern economies” (Article 1.02). It deals with new topics such as “wider coverage of financial derivative contracts,” “financial corporations in general, and special purpose entities (SPEs) in particular,” the “treatment of government controlled SPEs abroad,” “the treatment of super dividends paid by public corporations,” and “principles for the treatment of public-private partnerships.” Furthermore, to ensure the quality and comparability of European statistics, the European Statistics Code of Practice was published in 2011. It defines 15 principles for European statisticians, among them the principles of “impartiality and objectivity,” “scientific independence,” “coherence,” and “accuracy and reliability” (Eurostat 2011). It underlines a scientific statistical impetus backing the professional identity of national accountants as independent from political influence and rooted in scientific objectivity. One can say that the ESA reforms are in part a reaction to the fact that public-private co-financing arrangements have been used by national governments to “optimize” their debt and deficit levels in a fraudulent manner.

On the other hand, sophisticated financing vehicles like operating leases, PPPs, and concessions have always been used to maintain public investment levels in times of budget discipline. It is widely acknowledged among experts that off-government balance sheet options are the most important drivers of privatization and different types of public-private co-financing arrangements. Even though they promise efficiency and private sector effectiveness, PPP arrangements are more expensive than public direct investments (Vining et al. 2005; Bel and Warner 2008). This fact is widely acknowledged within the field: “The pivotal point of concern and criticism of PPPs is their cost of funds, which is typically higher than the cost of public funds” (Blanc-Brude and Strange 2007, 93-4). Thus, there must be other reasons for their broad usage,

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<sup>1</sup> The scandalous creative co-financing arrangement in Greece, a swap deal with Goldman Sachs to hide public sector debt and deficit levels to enter the European Union (Morales et al. 2014), is not an exception in institutional terms. It may be an exception in terms of its historical consequences.

<sup>2</sup> After the global financial crisis, the G-20 Finance Ministers and Central Bank Governors issued 20 recommendations to address data gaps. The Financial Stability Board (FSB) and the International Monetary Fund (IMF) supported this endeavour. The Inter-Agency Group on Economic and Financial Statistics (IAG) coordinates and supervises the application of recommendations (<<http://www.imf.org/external/np/seminars/eng/dgi/index.htm>>).

and off-government balance sheet solutions are attractive solutions for public sector entities (Mühlenkamp 2014). When it comes to PPPs, the ESA framework is based on a risk and reward logic to determine the question of ownership. According to the rule of “economic substance over legal form” (ESA 2010 1.90 and 20.164), ownership is not defined by the legal form of a company or the special purpose vehicle. Since an asset can *either* be public *or* private, but not both, the entire PPP needs to be identified as a public *or* a private sector investment (EPEC et al. 2016, 15). The criterion is whether risks *and* rewards are transferred to a private unit. The risk assessment is based on three main categories of risk: “construction risk”: covering events like late delivery, respect of specifications and increased costs; “availability risk”: covering the volume and the quality of output (linked to the performance of the partner); “demand risk”: covering the variability of demand (the effective use of the asset by end-users). (Eurostat 2016, 333)

If the private party bears the construction risk and at least one of the other risks (availability or demand), then PPP related assets should be classified off the government’s balance sheet. Some have argued that this is a weak criterion that can be easily met (Heald 2011, 241). Eurostat, together with the European PPP Expertise Centre (EPEC) and the European Investment Bank recommend an “early consultation with national statistical authorities ... if the statistical treatment of a project is likely to be a determining factor in the public sector’s decision to procure or enter into a PPP contract” (EPEC et al. 2016, 12). This shows the importance of political will and assistance to define off-government balance sheet solutions.

The German Statistical Office (Destatis), generally, adopts a more transparency-oriented attitude toward the notion of risk transfer in public-private co-financing arrangements. For example, it went for an exceptional solution on the question of how to account for the German “bad banks” under the Stability and Growth Pact regime. It argued for an on-government balance sheet solution, which was highly debated at the time (Gandrud and Hallerberg 2014).<sup>3</sup> This shows that the notion of risk transfer is open to various interpretations, and the ESA framework and Eurostat determine the scope for decision-making among the Member States’ institutions. We argue that this room for interpretation emerges from a tension between the requirement for *financial discipline* on the one hand, and the requirement for *financial creativity* on the other hand. On the one hand, public sector accounting is tied to the rule of “impartiality” (i.e.,

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<sup>3</sup> Gandrud and Hallerberg (2014, 10) write: “The German bad banks were ultimately classified as being in the public sector and not contingent liabilities because of the public ownership of the institutions that they were restructuring. ... Clearly the government preferred that the AMCs [asset managed companies] should not increase the public debt. It was Eurostat’s decision and subsequent enforcement in conjunction with the German statistical agency – Destatis – that forced this change”.

apolitical evaluation) and “objective” assessment of “real” public expenditure directed against any form of manipulation of public accounts. Government statistics fulfill the duty of external monitoring and control. On the other hand, public sector accounting must identify opportunities to transfer risks via off-government balance sheet solutions to allow public expenditures under budgetary constraints. Here, government statistics play an involved, active and enabling role for public investments. We claim that concrete public sector accounting solutions meander between these two poles.

This general conflict is evident in the case of Energy Performance Contracts (EPCs), which have become an important investment vehicle for the European Commission to achieve its climate change goals. The EU Directive 2012/27/EC on energy end-use efficiency and energy services explicitly demands the removal of regulatory and non-regulatory barriers to promote EPCs. It states:

There is a need to identify and remove regulatory and non-regulatory barriers to the use of energy performance contracting and other third-party financing arrangements for energy savings. These barriers include accounting rules and practices that prevent capital investments and annual financial savings resulting from energy efficiency improvement measures from being adequately reflected in the accounts for the whole life of the investment. (Art. 48)

Eurostat reacted to this requirement by reforming its guideline for EPC treatment in government accounts. In 2015, Eurostat released the mandatory Guidance Note, “The Impact of Energy Performance Contract on Government Accounts,” and shortly thereafter in 2017, replaced it with a new version because “the criteria established in the 2015 guidance note for an operating lease treatment were considered too strict” (Guidance Note 2017, Article 1.4) and viewed as an obstacle to public energy efficiency investments. The recently published report by the EU High-Level Expert Group on Sustainable Finance expresses the hope that this new legislation “opens the way for billions of new investments to make European buildings more energy efficient” (EU High-Level Expert Group on Sustainable Finance, 2018, 60), and promotes EPCs as a specific “form of ‘creative financing’ for capital improvement” in the public sector.<sup>4</sup> EPCs are designed to sell the performance risk of an energy efficiency investment to a private energy service company that guarantees a certain predefined reduction target, which translates into future public savings. This contractual set-up builds upon what Jens Beckert (2016) calls “imagined futures,” and uses financialized concepts of risk and return to structure public investments (Chiapello 2015). It also makes EPCs attractive for public decision makers and organizations that need to meet the Maastricht criteria (Polzin et al. 2016).

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<sup>4</sup> See <<https://e3p.jrc.ec.europa.eu/articles/energy-performance-contracting>>, last access 2018-03-27.



Before digging into the German EPC case, we outline our analytical perspective on the interplay between statistical and quantitative forms of governance and the historical-political philosophies that explain them.

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### 3. Conventions of Quantification

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Historical transformations of accounting rules are surrounded by an aura of technicality and often are presented as processes of “inevitable and univocal progress” (Desrosières 2003, 553). This neutral presentation is astonishing, given the variety of accounting systems that have been in place throughout the history of mankind (Graeber 2009). Investigating historical accounting systems brings to the fore the diverse political ideologies inscribed in them. For example, the communist system of national accounts (MPS) was based on the assumption that products (not services) are the main carriers of economic value, which led to the (ironic) consequence that in

Cuba, where health and education services (and plan administration) have grown much more rapidly than output of goods, the growth rate is slower on the MPS national income concept than on a ‘bourgeois’ one! (Seers 1976, 194)

This example underlines the necessity of analyzing accounting systems in their historical and political contexts.

Following Eve Chiapello and Christian Walter (2016, 156), we adopted a conventionalist approach which assumes “that quantification systems have a history, and that it is possible to sketch out that history by identifying some major turning points in the conception of the phenomena we seek to model and understand.” (See also [Diaz-Bone and Didier 2016](#)) This means that monitoring systems – including accounting systems such as the International Financial Reporting Standards (Chiapello 2016, 2017) on which the International Public Sector Accounting Standards are based (Adhikari and Gårseth-Nesbakk 2016) – cannot be studied independently from more general notions of a fair economy. This analytical line is rooted in the work of Alain Desrosières (1998), who emphasizes the interconnectedness of the economy, the state, and statistics (Desrosières 2003, 2011). Table 1 illustrates this interconnectedness using the examples of the engineer state, the Keynesian state, the liberal state, and the neoliberal state.

**Table 1:** The State, the Market, and Statistics

State	Conceptualization of Society and Economy	Mode of Action	Forms of Statistics
Engineer state (since the 17th century)	Hierarchically structured institutions; rationally organized; France, from Colbert to De Gaulle; USSR	Optimization under constraints; reduction of costs; planning; technocracy; major work projects; long term vision	Demography; production in physical quantity; input-output table; material balance
Keynesian state (since the 1940s)	Market cannot function on its own without generating crises; market must be regulated at a global level	Supervising and managing occasional gaps between global supply and demand through monetary and budgetary policies	National accounting; analysis of the economic situation; economic budgets
Liberal state (since the 18th century)	Physiocracy; an extensive market; free competition	Fight against corporatism; free-trade philosophy; anti-trust laws protecting competition	Statistics promoting market transparency; measurement of possible dominant position; market share
Neoliberal state (since the 1990s)	An extensive market; free and undistorted competition; financialization; central decision-making functions distributed to networks	Moving from rights to incentives; turning administrations into agencies; contractualization	Objectification of new areas of equivalence; construction and use of indicators to evaluate and classify performance; benchmarking supplements or replaces directives and regulations

Source: Desrosières 2011, 45, reduced version of the original table.

The planned economy of the engineer state typically requires input-output tables, which are not necessarily monetary; the state must understand the flows of industrial materials and food before it can intervene and manage production and consumption. Keynesian national statistics were designed to monitor such macroeconomic developments. In a Keynesian state, it is important to analyze booms and recessions to be able to intervene when necessary:

the 1929 crisis not only induced the ‘Keynesian revolution’ but also the complex apparatus of National Accounts, a form of action on which so-called ‘Keynesian policies’ are based (Desrosières 2011, 78).

A crucial development associated with the Keynesian perspective was the conceptualization of the economy as a whole (Desrosières 2003, 560). In a liberal state, statistics are focused on securing and guaranteeing exchange and price mechanisms.

Thus, in contrast to purely theoretical liberalism, ‘real’ liberalism implied for the state a role as organ of economic intelligence, gathering and disseminating

information needed by economic agents in order to act in the market (ibid., 557).

The statistics of the liberal state “aim at bringing the real markets into consonance with theory: complete and identical information for all stakeholders, especially in the matter of prices” (Desrosières 2011, 44). But the idea of economic intervention is an anathema to liberals who believe in the free market and a laissez-faire approach. Liberal beliefs are at odds with the use of statistics as a tool of a planning and intervening central state, even one that operates in the name of liberalism. It is noteworthy that both “Ronald Reagan and Margaret Thatcher...cut funding for official statistics in the name of reducing state direction of the economy” (Desrosières 2003, 561). Statistics and its calculative centers have changed in the neoliberal era. Statistics are not produced to understand macro societal constellations, but to reveal microeconomic dynamics based on the main hypotheses of rational expectations theory, which became an important paradigm in the 1980s (Desrosières 2011, 46). Thus, statistics are produced to establish incentive structures and benchmarking systems that enable the performance measurement and comparison of economic agents (ibid.). Desrosières highlights how

microeconomic models of logistic regression make it possible to separate and to isolate the ‘specific effects’ of variables or tools used in public activities affecting their performance, and thus to improve the ‘target variables’ of policies which are conceived in terms of incentives (especially fiscal) and of the behavior of individuals. (ibid.)

Post-crisis reform efforts can be viewed as a process aimed at strengthening the liberal regime of market discipline. The European debt and deficit statistics under the Stability and Growth Pact are designed (among other aims) to allow markets to exercise disciplinary power over the fiscal performance of states.<sup>5</sup> Parts of the latest reforms aim at strengthening fiscal transparency in line with a liberal convention of quantification. At the international level of the G-20 Data Gaps Initiative, we may also observe initiatives to regain Keynesian macroeconomic oversight of recurring financial crises and global financial instabilities (Wagner 2016). The reforms from cash accounting to accrual accounting fostered by the International Public Sector Accounting Standards (IPSAS), which are the blueprint for quite different public sector accounting reforms at the national and regional levels in OECD countries (Adhikari and Gårseth-Nesbakk 2016), represent a different type of quantitative governance tool. The standards were designed to foster an entrepreneurial management perspective in public sector financial accounting. Public administrations are turned into agencies by an accounting standard that helps them identify future management

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<sup>5</sup> The crisis of the Maastricht regime has to do with the fact that government bond markets did *not* believe in it, which is shown by the declining yield curve of Greek government bonds in the moment Greece entered the Euro zone (Streeck 2013).

risks. As Stark (2002, 137) pointed out, New Public Management reforms consist of an array of devices beyond accounting reforms, including:

- Competition between public and private service providers;
- decentralization and delayering of government bureaus;
- benchmarking and output measurements;
- performance contracts and other financial incentives for public servants;
- the creation of internal markets; and
- private-sector management techniques, including better risk management practices.

Accrual accounting supports New Public Management reforms since it informs public managers about their financial options. The value-for-money logic helps reveal whether you should “stay in your buildings, or sell them, or rent them out, and go and rent or buy where it’s cheaper” as described by a public manager during an interview with Corine Eyraud (2016, 183). As Eyraud points out, the value-for-money logic is attractive to state officials, since states become *richer* by assigning a monetary value to their properties. It helps them “to relativize public indebtedness by comparing it with the assets, showing that there are not only debts but also public wealth” (Eyraud 2016, 185). However, accrual accounting also provides an opportunity to understand the economy as a microeconomic problem addressed only through private contracts if and when states view themselves as deal-making entrepreneurs. EPCs are a specific articulation of this trend.

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#### 4. Energy Performance Contracts in Germany

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We now analyze EPCs as a specific case revealing the broader trend of public debt management between discipline and creativity. We interviewed experts in the German EPC field who worked for: energy agencies from different federal states (Bundesländer); promotional banks at the Länder level; administrative authorities responsible for energy efficiency investments; the German Energy Agency (Dena), which organizes a dialog between the national government and the federal states on how to remove administrative and legal barriers for EPCs; and the German Federal Statistical Office (Destatis), where the Maastricht data are produced and the European EPC accounting reform is to be implemented.

We begin this section with a brief introduction to the German EPC market. EPCs were first implemented as part of the U.S. Energy Policy Act of 1992 and they have been well established in Germany since the 1990s (Seefeldt 2003, 1013). According to a market report, 96 EPC projects were launched between 2006 and 2015 in Germany (Hermann and Plüschke 2016, 18). In 2014, the turnover realized by energy service companies actively operating in the German market (e.g., Siemens, EnBW, Bilfinger, RWE) was 79.55 million Euro (ibid.). An EPC is an agreement between a public administration that owns

public buildings (e.g., museums, schools, universities, indoor swimming pools) and an energy service company that guarantees a quantified reduction in energy consumption levels achieved by investments in energy efficiency measures over a defined period of time. The identified public savings are to be used to finance the investment. The public building owner only needs to pay after *guaranteed* energy saving levels are achieved. Today, model contracts are provided by the Federal Office for Economic Affairs and Export Control (Bafa), which help develop business models based on energy savings goals, savings guarantees, pay-back modalities, and measurement methods for energy consumption and efficiency gains.<sup>6</sup>

The first EPCs in Germany were implemented based on a monetary savings argument. The federal state Berlin pioneered the EPC in Germany and implemented it as a specific solution especially attractive for local governments under budgetary constraints. The Federal Budget Law (Bundeshaushaltsgesetz) severely restricted the establishment of EPCs, and Berlin found solutions to overcome them. After successful pilot projects by the Berlin Committee on Budgets (Hauptausschuss des Abgeordnetenhauses von Berlin), an order was released that future EPCs would not have to be treated as credit-like liabilities (kreditähnliches Rechtsgeschäft), and thus would not affect the credit limit of the Berlin budget. What is still necessary is a profitability verification compared to standard public purchasing (Nachweis der Wirtschaftlichkeit gegenüber Eigenbesorgung). Furthermore, Berlin introduced a new budgetary position allowing accounting for “savings,” which are offset against the EPC’s yearly or monthly contracting rate. In that way, the individually contracted saving metrics become an integral part of the public sector financial statement.<sup>7</sup>

The following table demonstrates the wide variety of EPC treatments by the German federal states. Since 2015, the Bund-Länder-Dialog Contracting financed by the German Federal Ministry for Economic Affairs and Energy has aimed to define the regulatory obstacles faced by EPCs in Germany. To do so, it published the great level of heterogeneity of public sector accounting solutions applied in Germany. Thus, Table 2 does not indicate that all Länder have EPCs; rather, it indicates the differences of legal frameworks governing their potential establishment.

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<sup>6</sup> <[http://www.bafa.de/BfEE/DE/Energiedienstleistungen/Contracting/Mustervertraege/mustervertraege\\_node.html](http://www.bafa.de/BfEE/DE/Energiedienstleistungen/Contracting/Mustervertraege/mustervertraege_node.html), accessed August 30, 2018.

<sup>7</sup> This information is derived from interviews with representatives of the Energy Agency of Berlin, Environmental Agency of the federal state Berlin, and the German Energy Agency (Dena).

**Table 2: EPC Accounting Solutions by the German Federal States**

EPC	BB	BE	BW	BY	HB	HE	HH	MV	NI	NW	RP	SH	ST	SN	SL	TH	
Credit-like liability under provision of the Federal Budget Law	X		X	(X)				X	X	X	X	X	X		(X)	X	
Effect on credit limit	X		X	(X)			X		(X)	X	X	X	X		(X)	(X)	
Profitability verification compared to other forms of financing	X	X	X	X	<i>missing item</i>	X	X	X	(X)	X	X	X	X		X	X	
Forfeiting/ forfeiting without waivers of objections (wo)	X	(X)	(X)	(X)	X	X	X	(X)	X	(X)	w	X	w	(X)	<i>missing item</i>	(X)	X
Public sector accounting (1: Enhanced cameralistic; 2: accrual)	1	1	1	1	2	2	2	1	1	2	1	1	1	1	1	1	

Source: Own composition; data from Dena Deutsche Energy Agentur/Kompetenzzentrum Contracting, <<https://www.kompetenzzentrum-contracting.de/umsetzungshilfen/gesetzbestimmungen/laenderregelungen-haushaltsrecht>> (Accessed July 30, 2018) & <<https://www.haushaltssteuerung.de/haushaltsreform-deutschland.html>> (Accessed August 30, 2018); (X) = individual assessment.

The interviews reveal that profitability verification (Wirtschaftlichkeitsprüfung) and their treatment as credit-like liabilities (kreditähnliches Rechtsgeschäft) are important obstacles preventing EPC contracts to be signed at the level of the federal states. The profitability verification requires a proof for PPPs being more efficient than alternative public funding vehicles. This evidence is difficult to prove, since PPPs often show to be expensive in the long-run. Furthermore, the status as a credit-like liability jeopardizes off-balance sheet solutions. It is tied to the logic of budgetary discipline and control defined by the Federal Budget Law. Also relevant is the different treatment of forfeiting in the different federal states. Forfeiting (or factoring) enables the “long-term sale of (future) receivables” from an energy service company to a bank (Hermann and Plüschke 2016, 37) in order to obtain better credit terms stemming from better risk evaluations of public sector investments by rating agencies. EPCs thus are more likely to be established when the state allows forfeiting. Forfeiting is an instrument by which monetary flows (i.e., contracting rates) are passed directly to a bank on a regular and guaranteed basis. For

banks, these kinds of secured revenue streams are important, since they increase their leverage in financial markets. Interestingly, the federal states Schleswig-Holstein and Rhineland-Palatinate added a certain condition to their forfeiting instrument. They do not allow waivers of objections (Einredeverzicht), which would impede the state from withdrawing from projects and withholding payments if problems arise. Waivers of objections are especially delicate, since EPCs are structures in which problems can easily occur and renegotiations during projects are quite common.

The difficulty lies in linking financial reimbursement rates to energy efficiency gains throughout a project's duration. This commodification process is a result of complex negotiations between the energy service company and the public sector building owner. The decisive element of the performance measure is the time period for which performance is guaranteed and the risk assumed by the investor. A Siemens engineer responsible for developing EPCs explained in a publicly available video:

Nobody is really able to predict what electricity costs are gonna be in 3 years. Most contracts are 10 to 15 years in nature, so it's critically important to base the savings on units and then dollarize those, into either current rates or reasonable rates.<sup>8</sup>

This contractual reimbursement relationship is jeopardized by unforeseen changes in energy use, for example, when a new class of users causes an increase in energy consumption that was unforeseen and thus not contracted beforehand. Adjustments become necessary, for example, when the building is used by a different class of people. An EPC webinar mentions that women get cold more easily than men, which leads to increased heating costs if more women use the building. This unforeseen change would not be part of the performance risk assumed by the private contractor and would make renegotiations necessary.<sup>9</sup> When not contracted beforehand, these changes can create conflicts between the public owner and the investor in terms of the savings guaranteed and the risk assumed by the investor. To avoid conflict, definitions must be established before a contract goes into effect – that is, who will measure what, when and how, and what types of changes require meetings to adjust performance metrics. When asked during an interview about the most important risks associated with establishing an EPC, one expert responded: “In my view, the planning risk is the most important. If mistakes are made in the beginning, nothing will be achieved afterwards.” This quote underlines the

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<sup>8</sup> Case Study: Energy Savings Performance Contracts, published online 13.10.2010 at <<https://www.youtube.com/watch?v=HGikVXOyOPlyou>> (Accessed March 27, 2018).

<sup>9</sup> Webinar available online at <<http://guarantee-project.eu/knowledgebase>>, last accessed 2018-03-27. GuarantEE is a project funded by the European Union's Horizon 2020 research and innovation program, coordinated by the Berliner Energieagentur, conducted by consortium partners from 14 European countries.

fragile nature of contract terms ranging from tools of measurement, to timeframes, to financing modalities and reasonable pay-back rates over a defined period of time.

Another interesting aspect of the German context is how EPCs are treated by the German Statistical Office responsible for producing the Maastricht data under the European System of National and Regional Accounts (ESA). According to our interviewee at Destatis, EPCs are treated with caution and sensitivity to risk. Here, risk is not defined by an individual contract logic, but by a general macroeconomic logic which views PPP arrangements in general (and EPCs in particular) as public sector investments. Thus, no matter what kind of risk allocation model is applied to an individual EPC, the effect on the national account appears on the public sector balance sheet. From the expert's perspective, this is also a question of impartiality of official statistics, which should not be interfered with or distorted politically. Moreover, our interviewee mentions the question of manpower. Individual contract assessments to evaluate whether risks are really transferred, is just not feasible or doable within the time and manpower available. Thus, contract assessment is based on a more generalized approach that does not go into the details of individual contracts. This pragmatic and cautious approach is aligned with a professional ethos of scientific detachment and neutrality that official statistics should not be influenced by political interests, but transparent and impartial. This is, of course, disregarded by EPC advocates and Eurostat, which modified its 2015 Guidance Note just two years later specifically because a new way of assessing EPCs was politically desirable. The expert we interviewed viewed this as problematic:

This is the handbook about deficits and department levels. [Shows the handbook, Eurostat 2016] If you have 25 chapters that contradict each other, you make yourself unreliable sooner or later. There is a certain need to act in a coherent manner. But the political pressure must be very high with these strange energy performance contracts, so they start inventing absurd new things.

One “new thing” that has been invented, according to our interviewee, is the buy and leaseback model. The Guidance Note 2017 clarifies:

if an EPC-contractor is bearing the majority of the risks and rewards associated with the use of an asset, the EPC-contractor shall be regarded as the economic owner of this asset; in the case above, EPCs can either be accounted for by using the operating lease treatment or the buy and leaseback model.

Up to now, this individual contract assessing practice is not applied in the German Maastricht accounts. This indicates a conflict within the public sector accounting world upon the question if official statisticians and accountants should take over the individual contract rationality or if they should take over an external and impartial stance towards the economic activities of the state. Our case reveals the existence of a conflicted transformation process whereby accountants – whether at the European, national or federal state level – find diverse accounting solutions. This is in line with Eyraud's (2016) argument for



the importance of investigating not only the abstract political philosophies of accounting devices, but also the multiple ways they are used and interpreted in practice.

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## 5. Conclusion: Diverse Risk Practices

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Our case reveals the existence of diverse approaches to risk in accounting and public sector finance in the context of the European Consolidation State. On the one hand we find a notion of budgetary discipline and the risk of public sector spending, and on the other hand we identify a requirement for creative co-financing arrangements with individually contracted risk sharing models. The treatment of PPPs in public accounts reflects this political duality. The binary logic of either public or private sector classifications in European national accounts is one that becomes more difficult as the economic assets to be classified become more complex and risk assessments must be determined on a case-by-case basis.

One solution to this problem is the rather distant approach to risk assessment applied by the German Statistical Office (Destatis) under the Maastricht regime. Since it is difficult to assess the future risk of co-financed investments, the rationale here is to generally account for them as public investments and to assess individual contracts only in exceptional cases. We also find this cautionary position in some of the German federal states, which treat PPPs in a rather conservative way as credit-like liabilities with strict profitability verification tests in place. PPPs must prove to be as profitable as traditional way of public financing (Table 2). A second trend involves adjusting the accounting rules to the inner logic of the public-private contract. The extra saving position for EPCs in the accounts of Berlin is an example of this. Generally, contracts such as EPCs require a huge level of involvement from national and public sector accountants, because risk transference (and respective off-government balance sheet solutions) depend on a wide array of technical details. As stated before, also for classical PPPs, “early consultation with national statistical authorities is recommended if the statistical treatment of a project is likely to be a determining factor in the public sector’s decision to procure” (EPEC et al. 2016, 12). An EPC intensifies this direct involvement and alignment of public accountants and accounting rules with a microeconomic risk logic. The very fact that existing PPP regulations have been considered “too strict” (Guidance Note 2017) and perceived as a regulative barrier to these new modes of creative public financing shows that accountants fluctuate between assuming a position of distant macroeconomic objectivity and neutrality, and adopting a more involved role as facilitators of public-private investments.

Relating these findings to the analytical framework of Alain Desrosières, we conclude by distinguishing two conventions of quantification. In the aftermath

of the European crisis, accounting reforms have taken the liberal path of strengthening official statistics to reestablish market discipline among states, and a neoliberal path which allows off-government balance sheet investments – often applying complicated and opaque risk sharing models that render monetary flows from the public to the private sector invisible. These solutions also reveal the more general idea that private companies are more efficient and capable than states to economize. The following table outlines these two very different risk concepts:<sup>10</sup>

**Table 3:** Liberal and Neoliberal Public Sector Accounting Conventions

Convention	Liberal	Neoliberal
Market guarantee	Market discipline guaranteed via just and fair public debt documentation	Entrepreneurship, privatization
Object at risk	European financial stability, transparency	Efficiency of public investments, economic activity
Risk object	Manipulation	Regulative barriers
Risk practice	Distant, objective, and impartial expression of public debt and deficit levels	Accountants and accounting rules as involved enablers of public-private co-financing arrangements
Time horizon	Debt and deficit levels in a given moment (present)	Politics of expectation, imagined futures, risk and return models, performance measurement (future)

Source: Own composition inspired by Desrosières 2003, 2011, and Boholm and Corvellec 2011, who distinguish objects at risk from risk objects.

What is interesting to us is the changing risk narrative that underlies this trend. Rather than being an actual state of things, risk is something to be debated between parties as they express different notions of valuable assets that might be endangered. We follow Boholm and Corvellec (2011), who regard “risk as a product of situated cognition positing a relationship of risk linking a risk object and an object at risk” (ibid., 178). They define a risk object as “something that is identified as dangerous” (ibid., 179) that can only be identified in accordance with a related object at risk, “something that is held to be of worth, be it life, nature, principles, or a state of affairs” (ibid., 180). Risk is a common understanding among actors of what is valuable and what might be threatened (e.g.,

<sup>10</sup> Table 3 leaves out elements of other statistical conventions (the engineer and the Keynesian convention), which might be present in the cautionary, impartial, and distant accounting attitude applied at the German statistical office (Destatis). There might be elements stemming from a Keynesian statistical convention still vivid in the ESA framework. Moreover, the renewed importance of Keynesian statistical perspectives might become evident in the G-20 Data Gap Initiative to prevent future financial crises and similar attempts to understand processes of macroeconomic stability. Although these strands have not been the focus of the argument, they are worth mentioning.

financial stability or economic growth). The understanding that emerges from our case study is that during an ongoing reform process of public sector accounting, risk appears to be re-imagined and re-constructed, constantly. Whereas administrators of the liberal state and national and public sector accountants need to determine absolute levels of expenditures to control fiscal discipline, the neoliberal state requires accountants to believe in the risk sharing arrangements of the individual contracts to enable creative co-financing arrangements. For our argument, it is important to note that the logic of sellable risks creates a business case of its own by transforming the notion of *absolute* public expenditures into *partitioned* future risks sold to a private party. Here, the private sector ultimately bears public risks, not the state.<sup>11</sup> It is interesting to see that within this framework, the seemingly important notion of budgetary discipline seems to dissolve; public investments become legitimate again (albeit in an opaque manner) and the state relinquishes its external and impartial instruments of control. We have also shown that this path is far from linear and clear-cut. Accounting practices exist at the local level that stifles these broader trends. It is therefore important to understand and study accounting/ financing practices on the ground and the multiple ways they change the initial meaning of an accounting reform.

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<sup>11</sup> Critical scholars argue that in many cases of investment, it is not about private companies taking on the state's risk, but "it is about the State acting as a force for innovation and change... 'de-risking' risk-averse private actors" (Mazzucato 2013, 5).

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