



Unintended consequences of expenditure targets on resource allocation in health systems

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ABSTRACT

In recent decades, several countries have reformed their health care systems leading to the devolution of power to a lower governance level and, subsequently, to re-centralisation. Due to the ambiguous results of these policies and the start of the financial crisis of 2008, a wide number of national governments implemented cutback initiatives aimed at controlling health expenditure. The literature shows that the introduction of such initiatives may have produced unintended consequences on health systems' performance. In order to better understand the power relations and the resulting decision-making processes between national governments and local authorities, it is important to focus on the effects of such expenditure control mechanisms on the inputs of the health systems, i.e. the production factors.

This research aims at investigating the effects of a cutback initiative intended to control personnel costs in a federal Beveridge health system through the analysis of resource allocation at the devolved level.

The paper is based on a quantitative analysis of data resulting from the financial statements published by the 21 Italian regional health systems from 2012 to 2017.

The results show that, although the Italian regional health systems managed to reduce personnel costs – i.e. hitting the target – the control of the total cost dynamic was not fully addressed. Overall, the initiative implemented by the national government had the effect of limiting the decision-making autonomy of regional authorities, pushing them toward shifting resource allocation from personnel to the purchase of services.

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1. Introduction

At the end of the twentieth century, New Public Management emerged as the reference paradigm for the organisation and management of the public sector [1,2]. According to this paradigm, local governance levels and their management gained more powers and responsibilities in both system governance and policy implementation [3,4].

The health sector has not escaped this reform process (see among others [5,6]). As a consequence, in many developed countries (e.g. Italy, Spain, Sweden, Denmark, New Zealand, Finland, Norway), strong decentralisation policies have transferred the power to manage and organise health services to regional author-

ities [7], which have adopted different governance models and management practices [4,8,9].

The outcomes of these decentralisation processes are ambiguous and some countries have experienced a rising inequity of their health system and uncontrolled expenditure by some regional health authorities [4,10]. Consequently, several countries have started introducing reforms to re-centralise powers [11,12], especially after the outbreak of the financial and economic crisis of 2008 [13,14]. In such a context, the stewardship and control role assumed by the central government has often influenced local level decisions and performance [3,10,15] through the adoption of control systems aimed at defining performance standards and expenditure thresholds [14]. These have taken the form of cutback management initiatives, i.e. initiatives leading change toward lower levels of resource consumption and activity [16–19].

Cutback management may be developed according to three main, different approaches [14,20]: linear cuts; targeted cost containment policies; or the search for productivity and efficiency gains. Linear cuts refer to cuts in equal amounts for all institu-

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tions involved. Targeted cuts imply that some institutions or sectors experience larger cuts than others. The third approach refers to cost containment measures that imply a gain of benefits related to an increased productivity or efficiency.

The implementation of such initiatives and the rewards and sanctions that are usually associated with them may be quite problematic, especially in the public sector. Considering that public organisations and managers operate in contexts characterised by institutional fragmentation and vague, multiple and sometimes conflicting goals, the challenges of balancing the goal conflict is magnified by cutback initiatives if not properly designed [18].

As a result, in many cases the literature shows how the application of cutback management policies based on linear or targeted cuts may have produced some ‘unintended consequences’ on health systems’ performance, governance [21,22] and, in general, on economic growth [23].

Unintended consequences can be defined as the reactive subversion intentionally, or unintentionally, put in place by managers and decision-makers at various levels in order to ‘hit the target’ even though ‘missing the point’ or to reduce the performance where targets do not apply [24].

Several studies have focused on these kinds of effects in terms of output and outcome following the implementation of austerity policies (see for instance [21,22]). This paper aims to analyse the intended and unintended consequences of targeted policies on the decision-making process of health care expenditure in a federal Beveridge health care system. Indeed, in a devolved system of governance, it is expected that the central level lays out the objectives for the local (or regional) level in terms of total spend and service standards, but not dictate to them how they ought to achieve those objectives by specifying elements of expenditure. Conversely, recent literature reports examples of devolved health care systems where the central governments set thresholds to specific input, such as personnel and pharmaceutical expenditure [10,14,25,26]. The analyses of such strategies and policies may foster comprehension of the relationship between the central government role and the autonomy at regional level and in general, of the overall function of health care systems. In fact, financing systems and resource allocation are among the key determinants of overall health system performance (see among others [27–29]).

In the case of the Italian National Health System (INHS), this paper explores how the decentralised level (the Italian regional health authorities) responded to the central cutback strategy on personnel expenditure. In particular, we investigated the effects of this national strategy on the regional expenditure dynamics and the capacity of government at the devolved level.

2. Methodology

This paper is based on the Italian experience related to the implementation of a cutback management measure focused on the cost of personnel. Italy represents a relevant case for this study since, as mentioned in the previous section, it adopts a governance health system structure in which organisational and management powers have been devolved to the regional level.

2.1. Case study context

The INHS provides universal coverage for comprehensive and essential health services. It is mainly funded through national and regional taxes supplemented by co-payments for pharmaceuticals, outpatient and inpatient care [8,30].

The INHS is regionally based. Since the early 1990s, legislative reforms have gradually transferred political, administrative, fiscal and financial responsibilities from the national government

to regional authorities [31,32]. Because of this devolution policy, Italy has different regional health systems and as a result, according to some authors, the equity gaps within the country have been widened over the years [33,34]. Each regional authority defines its own health plans and strategies and is responsible for the organisation and delivery of primary, secondary and tertiary healthcare services.

Regional authorities receive funds from the central government based on their population adjusted by age factors. Regional authorities provide health services [8] through: i) Local Health Authorities (LHAs), geographically based organisations financed by capitation, which deliver public health, community health services and primary care directly as well as secondary and specialist care through directly managed facilities, or by purchasing services from public hospital institutions or private accredited providers; ii) autonomous/university public and private accredited hospitals focused on acute care and financed by service tariffs; and iii) private not accredited providers financed by service tariffs. According to the INHS statute, the role of private providers is not to compete with public providers, rather to complement their activity [35]. Regional authorities are thus called on to decide whether they prefer to deliver health services entirely through public organisations (i.e. ‘make’ strategy) or to purchase some of these services from private or external providers (i.e. ‘buy’ strategy).

At the national level, the central government “exercises a stewardship role, controls and distributes the tax-financed health budget, and defines the national benefits package (known as the ‘Essential Levels of Care’) that must be guaranteed to all citizens and foreign residents” [36].

Due to the global economic crisis and the uncontrolled expenditure of some regions that followed the devolution of power of the early 2000s, in recent years the Italian central government has implemented several policies aimed at containing costs and at the same time improving the efficiency of public spending on healthcare services [37] and increasing central regulatory interventions [12,15]. These measures were aimed at placing stricter control over the uncontrolled health spending of some regions that incurred considerable deficits. To address this financial failure, one of the main mechanisms introduced by the central government was the ‘financial recovery plan’. This measure required eligible regions (i.e. regions with a deficit greater than 5% of the total budget) to include actions aimed at achieving financial balance by acting on the structural determinants of their costs.

In addition to this ‘strong’ policy, cost containment measures have included mostly personnel and pharmaceutical expenditure as well as the purchase of goods and services [32,38]. Starting from 2012, other policies targeting benefits and quality of care were also promoted.

As previously indicated, a number of policies were also implemented in order to reduce and limit the regional costs of personnel. Personnel represents one of the main production factors for the majority of regional health systems. As such, from the perspective of the national government, initiatives to control the cost of personnel were considered instrumental to improve overall regional health systems’ financial performance. Other reasons may be linked to the suspicion that local ‘clientelism’ practices can be established by lower governance levels.

First of all, from 2008 onwards a restriction of medical doctors’ and other healthcare professionals’ turnover was introduced together with salary freezing [30].

Another important restriction, on which this paper is based, was introduced by the Finance Act of 2007. This disciplined that the regions must take appropriate measures necessary to ensure that costs of personnel do not overcome ‘the corresponding amount of 2004 decreased by 1.4 %’ (from now on this measure will be named ‘2004 – 1.4 %’). In addition, the regions were required to draw up

an annual review programme on personnel cost reductions. This measure takes the form of a linear cut measure since the same target was attributed to all regional authorities without taking into account the initial conditions of each regional system, e.g. if they could be considered efficient or not with regards to this production factor. In the cases in which regional authorities did not fulfil the above-mentioned target, these were considered compliant if they managed to guarantee an economic balance, i.e. income greater or equal to costs.

Different from the other measures aimed at reviewing the health expenditure, the '2004 – 1.4 %' target was renewed over the following years by the Finance Act of 2010 for the years from 2010 to 2012, the Legislative Decree 111/2011 for years 2013 and 2014, and the Legislative Decree 190/2014 (i.e. the Finance Act of 2015) for the years from 2013 to 2020. The latter act imposed an additional element which obligates the regions to implement a gradual, phased reduction of the regional costs of personnel to be achieved before the end of 2020, even for the regional authorities that manage to achieve a non-negative economic result. Regional systems not complying with this legal requirement are not eligible to accede to specific reward quotas of the national healthcare fund – i.e. 3% of the regional health funds.

Compared to the other measures implemented, this measure was one of the most significant in terms of expenses potentially cut back. Additionally, this measure produced an important political debate between regional authorities and central government, demonstrated by formal acts and numerous newspaper articles.

Table 1 reports contextual elements that describe the regional characteristics in 2012 and in 2017. In particular, it shows for each region whether it is undergoing a recovery plan programme, the resident population, the cumulative deficit (expressed as the sum of the annual economic results since 2004), the distance from the linear cut target in 2012, and the number of regional health system employees. Moreover, regions that have a special autonomy given by the Italian constitution are identified with an asterisk.

From **Table 1**, it emerges that seven out of 21 regional authorities are involved in recovery plans (8 in 2012) and that there is a wide difference in the population served (ranging from 0.126 million in Valle D'Aosta to 10 million in Lombardy). In 2012, all regional systems were above target levels of expenditure (i.e. the cost of personnel in 2012 was higher than the corresponding value in 2004 minus 1.4 %), with differences between regional health systems. **Table 1** shows the cumulative deficit of the three years before the mandatory introduction of the target across all health systems (2012–2014) and the three years after (2015–2017) per regional health system.

2.2. Data collection and analysis

The analysis took into account the years between 2012 and 2017. The reason is that, starting from 2015, the cutback initiative on the cost of personnel was extended to all regional health systems (while previously it was applied exclusively to those regional authorities that did not achieve the economic equilibrium condition, i.e. revenues lower than costs). This time span allows to consider the three years before and after the introduction of this target.

The analysis was performed through the examination of the financial statements published by the 21 regional healthcare authorities in the period considered.

A quantitative analysis was performed in order to investigate the dynamics of three main cost items, namely: i) cost of personnel (PC); ii) purchase of services costs (PSC); iii) total costs (TC); and their relation. This includes a benchmark analysis of the per capita PC and PSC of each regional health system so as to compare different regional strategies in terms of resource allocation to production factors. Moreover, a correlation and a regression analysis

of the percentage change of each production factor analysed with the total cost change between 2012 and 2017 was performed. All the analyses were made using STATA 15®.

Compound annual growth rates (CAGR) were also calculated to determine the annual percentage growth rate over the five-year study interval for PSC, PC and TC at the national level.

PC and PSC represent the main production factors of the Italian healthcare system accounting for an average of 65 % of the TC and it is worth emphasising that their values are representative of the 'make or buy' decision (i.e. to provide health services directly or to purchase them from other providers): a high PC and a low cost of PSC are representative of a 'make' strategy; vice versa, a high cost of PSC and a low cost of PC are representative of a 'buy' strategy. The purchase of goods cost – which represents the third main production factor of the health system – was not considered in the analysis since the focus of the paper was on the reallocation of resources between production factors that can be considered as potential substitutes. Although the purchase of goods is somehow related to the cost of personnel and to the 'make' strategy, it is influenced by other elements, such as technology improvement and product price fluctuation (e.g. pharmaceuticals), which make its dynamic hard to interpret when assessing resource allocation strategies.

In order to determine the PC, we included all the cost items related to the salaries of all staff categories (health and non-health professionals, technical staff, administrative staff) and associated regional taxes. The taxes hereby considered are exclusively those positively and directly related to the cost of personnel.

The PSC was estimated considering exclusively the 'labour intensive' or 'substitute' outsourced services, i.e. the services that could also be performed by employed staff. The need to focus on substitute services is related to the goal of analysing the resource allocation between the different production factors. These services were selected based on interviews with regional officers of two different Italian regions.

TC was estimated as the total expenditure emerging from the financial statements. Depreciations, the write-down of fixed assets and of credits and provisions were excluded in order to avoid potential difference deriving from the different accounting practices of the regional authorities. However, it is worth noting that the impact of these cost items accounts for 5% of the total national expenditure and is constant through the time frame considered in the analysis.

Financial statements were collected using the official databases of the Ministry of Health and of the National Court of Auditors.

The per capita costs were computed through data on population published by ISTAT (the Italian National Institute of Statistics) and weighted according to the criteria used by the Italian Inter-Ministerial Committee for Economic Planning (CIPE) to allocate resources to the different regional systems.

3. Results

As outlined in the methodology section, we compared the two main production factors, namely PSC and PC, for each region. From the data analysis it emerges that, following the spending review measures implemented by the Italian government, the regional health systems shifted the allocation of their production factors from personnel to the purchase of services.

Table 2 shows the percentage change of the two per capita production factors analysed. Based on the changes in the allocation of production factors, four clusters were identified.

The first cluster includes the eleven Italian regions (out of 21) that managed to decrease the PC and increase the PSC; the second cluster includes the seven regions that decreased both productive factors; the third cluster includes the Autonomous Province

Table 1

Recovery plans implemented (2012 vs 2017), resident population (2012 vs 2017), cumulative deficit spending (2012–2014, 2015–2017), distance from the target (difference between PC of 2012 and PC of 2004 minus 1.4 %) and number of regional health employees by region (2012 vs 2017). Sources: Ministry of Health; Italian National Statistics Institute (ISTAT); monitoring report on health expenditure, Ministry of Economy and Finance, 2019; annual statements on public employees, Ministry of Economy and Finance.

Region	Recovery plan		Resident population		Cumulative deficit (ml €)		Distance from the target (ml €)	Number of regional health system employees	
	Year 2012	Year 2017	Year 2012	Year 2017	Years 2012–2014	Years 2015–2017	Difference between PC (year 2012) and PC (year 2004 – 1.4 %)	Year 2012	Year 2017
	Abruzzo (ABR)	X	X	1,306,416	1,322,247	–108	73	91	14,825
Basilicata (BAS)			577,562	570,365	–10	–18	85	7,126	7,134
Bolzano (BZ) *			504,708	524,256	36	394	217	8,421	8,710
Calabria (CAL)	X	X	1,958,418	1,965,128	–161	–37	164	20,483	18,892
Campania (CAM)	X	X	5,764,424	5,839,084	–98	–51	88	47,093	42,815
Emilia-Romagna (ER)			4,341,240	4,448,841	–5	92	585	60,457	58,250
Friuli-Venezia Giulia (FVG) *			1,217,780	1,217,872	23	0	244	20,218	19,753
Lazio (LAZ)	X	X	5,500,022	5,898,124	173	–531	465	48,094	43,639
Liguria (LIG)			1,567,339	1,565,307	155	255	66	24,680	23,427
Lombardy (LOM)			9,700,881	10,019,166	–18	175	1,256	103,650	100,176
Marche (MAR)			1,540,688	1,538,055	–173	–69	150	19,661	19,311
Molise (MOL)	X	X	313,145	310,449	143	23	17	3,463	2,959
Piemonte (PIE)	X		4,357,663	4,392,526	–91	–2	504	57,221	55,155
Puglia (PUG)	X	X	4,050,072	4,063,888	–4	94	308	37,489	35,992
Sardinia (SAR) *			1,637,846	1,653,135	188	807	226	21,119	21,601
Sicily (SIC) *	X	X	4,999,854	5,056,641	149	–20	480	45,657	42,550
Tuscany (TUS)			3,667,780	3,742,437	19	125	396	52,166	51,338
Trento (TRE) *			524,877	538,604	187	–27	110	7,915	7,982
Umbria (UMB)			883,215	888,908	–37	0	101	11,243	11,266
Valle d'Aosta (VDA) *			126,620	126,883	–11	49	22	2,144	2,223
Veneto (VEN)			4,853,657	4,907,529	–144	51	426	60,291	59,302
Total	8	7	59,394,207	60,589,445	213	1,383	6,001	673,416	647,048

Table 2

Classification of regional systems into different clusters based on production factors changes.

Regional authority	% Change of per capita PC (2012–2017)	% Change of per capita PSC (2012–2017)	Cluster 1 ↑ PSC ↓ PC	Cluster 2 ↓ PSC ↓ PC	Cluster 3 ↓ PSC ↑ PC	Cluster 4 ↑ PSC ↑ PC
Abruzzo (ABR)	–1.99	1.87	X			
Basilicata (BAS)	–1.10	6.19	X			
Bolzano (BZ)	–3.67	1.33	X			
Calabria (CAL)	–7.75	10.83	X			
Campania (CAM)	–12.83	5.45	X			
Emilia-Romagna (ER)	–2.55	2.01	X			
Friuli-Venezia Giulia (FVG)	–1.90	–10.92		X		
Lazio (LAZ)	–14.89	–5.19		X		
Liguria (LIG)	–2.19	4.96	X			
Lombardy (LOM)	–5.77	3.57	X			
Marche (MAR)	1.16	14.64				X
Molise (MOL)	–11.99	5.32	X			
Piemonte (PIE)	–4.18	–5.45		X		
Puglia (PUG)	–2.84	7.59	X			
Sardinia (SAR)	–1.22	–4.02		X		
Sicily (SIC)	–4.28	8.16	X			
Tuscany (TUS)	–2.32	–1.28		X		
Trento (TRE)	1.18	–4.48			X	
Umbria (UMB)	1.16	0.32				X
Valle d'Aosta (VDA)	–1.73	–21.60		X		
Veneto (VEN)	–2.60	–1.06		X		
Total			11	7	1	2

of Trento as the only region that decreased the PSC and increased the PC; while the fourth cluster includes the two other regions that increased both the PSC the PC (Cluster 4). The regions that managed to decrease the PC above 5% are, except for Lombardy, four out of the seven regions under a recovery plan (see Calabria, Campania, Lazio and Molise results). Except for Lazio, each of these regions, in the same period, experienced a growing expenditure for purchase of services.

The clusters identified above are graphically represented in Fig. 1. This compares the per capita regional spending on PSC in relation to the per capita regional spending on PC per each type of cluster. The red line identifies the average values of 2012. The black

dots show how each regional system was positioned in 2017, while the red shows how each regional system was positioned in 2012.

The four graphs in Fig. 1 (one per cluster) show that many regional systems moved toward the upper left side of the graph, which means an increased PSC per capita and a decreased PC per capita.

In absolute terms, this shift in resource allocation from 2012 to 2017 could be quantified at the national level as a decrease of about €1.29 billion of the PC (–0.70 % CAGR), and an increase of a total amount of €1.36 billion for what concerns the PSC (0.75 % CAGR). The overall change in TC in the period considered is about €2.75

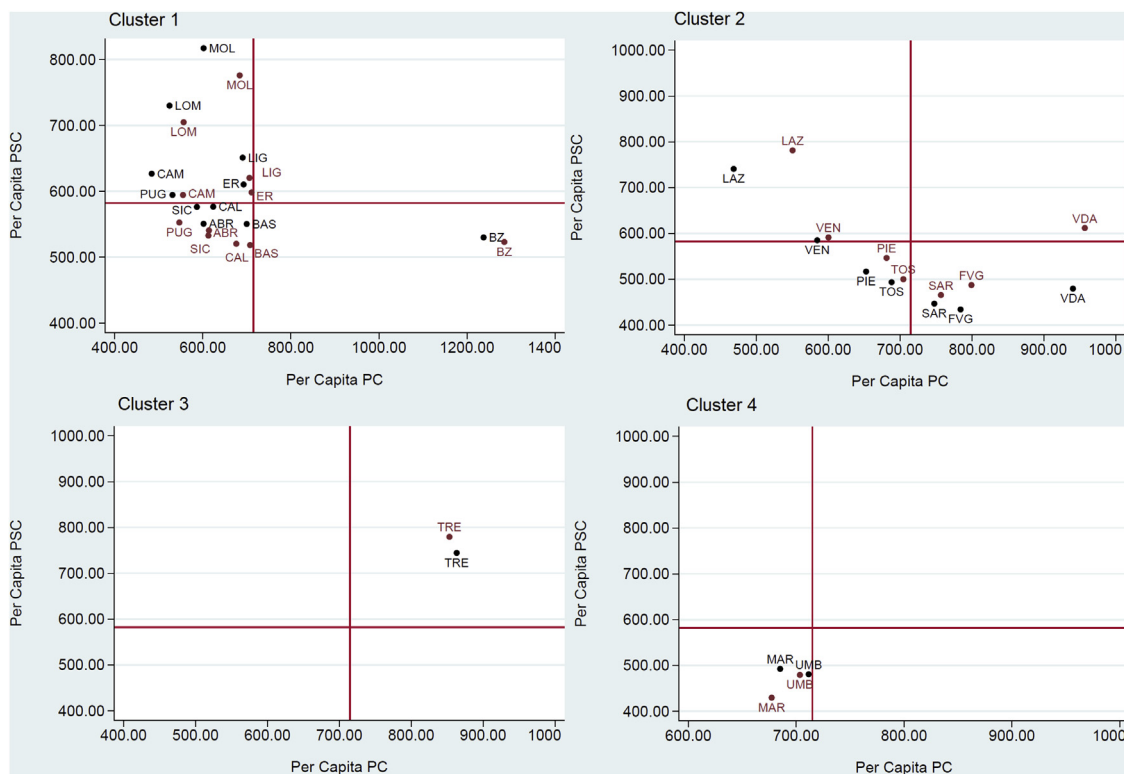


Fig. 1. Change of per capita spending on personnel (PC) in relation to per capita spending on purchase of services (PSC) between 2017 and 2012 per each type of cluster.

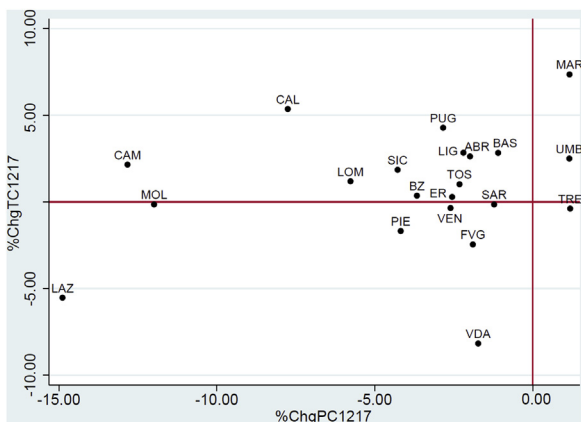


Fig. 2. Percentage change of per capita PC (%ChgPC1217) in relation to per capita TC (%ChgTC1217) between 2017 and 2012.

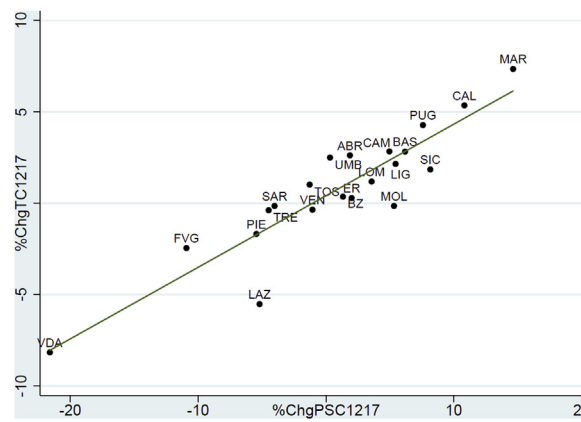


Fig. 3. Percentage change of per capita PSC (%ChgPSC1217) in relation to per capita TC (%ChgTC1217) between 2017 and 2012.

billion (0.50 % CAGR) – this also includes the purchase of goods and services not included in the PSC.

This means that while the overall PC decreased, the PSC increased at a greater rate than the TC.

These results are further confirmed by the analysis of the relationship between the percentage changes of each production factor with the TC occurring between 2012 and 2017. In particular, Fig. 2 displays the percentage changes of per capita PC between 2017 and 2012 on the y-axis; and on the x-axis, the percentage changes of per capita TC between 2017 and 2012. Each dot represents a regional health system. As one may notice, except for three regional systems, the Italian regions managed to reduce the PC under the pressure of the target fixed by the national government. However, the regional systems that reduced the PC may not have decreased the TC. The majority of the Italian regions (11 out of 17) are on the top left side

of the graph, which includes those health systems that decreased the PC and, at the same time increased the TC.

Additionally, Fig. 3 matches the percentage changes of the per capita PSC in relation to the per capita TC between 2017 and 2012. The graph shows a strong positive correlation between these two variables (0.9019; $p < 0.000$). Therefore, the regional systems that increased the PSC (14 out of 21), also increased the overall TC – except for the Molise region (MOL) – and vice versa.

This relationship is confirmed by a regression analysis (R-squared = 0.8244; Coefficient 0.392007 [$P < 0.000$]; Constant 0.410866).

Even though it is not possible to hypothesise a causal relationship between the two variables, it is evident that PSC has a strong influence on the dynamics related to the overall expenditure of the system.

4. Discussion

This paper focused on the strategies related to containment of the cost of personnel through the introduction of a national target value, i.e. the '2004 – 1.4%'. According to Pollitt's (2010) classification of cutback management strategies, this can be considered as a linear cut initiative.

The results show that this measure had a significant impact on achieving a cost reduction of the specific production factor in the majority of the regional systems, thus 'hitting the target'; however, considering the dynamic related to the potential substitute of personnel costs, this strategy 'missed the point' because the sum of PC and PSC slightly increased in the period considered (see CAGR results), and the overall national public deficit increased (see Table 1). Therefore, we can conclude that the specific cutback initiative analysed has led to a different input mix rather than gaining efficiency in the health system.

The counterintuitive result analysed in the case study takes the form of a 'tunnel vision' paradox [39–42]. This happens to be the case when control systems narrow the managerial attention to specific aspects (e.g. the cost of personnel) rather than the overall goal (e.g. controlling the overall health expenditure).

The implications of the existence of such paradoxes are related to the decisions on resource allocation at the regional level. In fact, the two production factors analysed and the way in which the related variables have been formulated for this study are closely related to the 'make or buy' decision, which strategically and politically referred to the powers granted to the regional authorities by Italian law.

As mentioned in the second section of the paper, even though private operators are not supposed to compete with public ones, regional authorities may decide whether to deliver health services through public owned organisations, such as LHAs and public autonomous hospitals, or to purchase these services from private providers reimbursed according to a well-defined regulation at the national and regional level. No regional system has decided to pursue entirely the 'buy' strategy (i.e. purchasing 100 % of health services) nor the 'make' one (i.e. producing and delivering 100 % of health services with own resources), but each system has assumed a different positioning ranging from those more oriented toward the 'buy' decision, e.g. those shown in the top left side of the graphs displayed in figure 4, such as Lombardy or Lazio, and others more oriented toward the 'make' decision, e.g. those displayed in the bottom-right side of the same graph, such as Friuli-Venezia Giulia, Umbria or Bolzano.

The linear cut initiative analysed in this paper – aimed at controlling the health expenditure at national level – indirectly pushed regional authorities toward the adoption of a higher degree of 'buy' strategy since the cut on the cost of personnel was not balanced by other measures aimed at containing other items of health expenditure with the same intensity. The result can be interpreted as a de facto limitation of the political and managerial autonomy of the different regional authorities. In structural terms, the cutback initiative was designed to allow 'make' oriented regional authorities shift toward the 'buy' strategy, but not vice versa.

The choice of the national government to intervene by specifying the expenditure item to cut back may depend on a number of factors.

First of all is employees' patronage, one of the best known phenomena in a public context, as there may be the perceived risk that regions put in place clientelism practices [43–45]. Thus, the rationale for this reform is that by limiting the possibility to hire new personnel, regions have fewer powers to put in place clientelism practices.

The second reason is related to the need to ensure that regions, especially those under recovery plan programmes, would achieve

financial viability in the long term. Cost of personnel indeed represents one of the main fixed cost items as employment contracts in healthcare are usually permanent. Consequently, the target of costs of personnel may push toward a more flexible cost structure and, thus, be more resilient in case of future resource reductions.

Third, the national cutback initiative on personnel may push lower governance levels to reallocate health resources (namely workforce) in a more efficient way. If devolved levels can hire less than before, they are also pushed to prioritise those areas that, more than others, need a workforce in the light of demographic trends and technological changes. In the Italian case, this cutback initiative supported another important INHS reform (see Ministerial Decree 70/2015) that defined the catchment area for specific acute services in order to ensure the proper ratio between quality and volume of care [46]. Hence, in the Italian case, the combination of both reforms seems to ask regional authorities for a more appropriate health care workforce allocation.

Although the national government – when referring to the whole package of mechanisms implemented to control health expenditure – provided a positive evaluation with regards to the ability of controlling the regional health expenditure (see for instance the Ministry of Economy and Finance of 2019), the specific linear cut here analysed was softened by the Finance Act of 2020. This happened following pressure from several regional health systems which complained about the perceived reduction in their autonomy and perceived inequity of the measure. In fact, considering that the linear cut applied to every regional health system regardless of their initial performance (i.e. 2004's personnel cost), the centrally proposed standard crystallized for years previously existing expenditure gaps between regions. In a Beveridge health system model, this cannot be considered fair.

Overall, according to the authors' opinion, the implementation of the cutback initiative analysed was mainly promoted by the willingness to ensure regional financial viability (see second factor commented). However, the analysis shows that the effective capacity to control the overall expenditure, through the implementation of such measures, should not be taken for granted. The result is, on the one hand, a change in the cost structure in favour of the 'buy' strategy and, on the other hand, an erosion of the regional autonomy of the federal system.

The unintended consequence also affected decision-making autonomy for those regional systems that demonstrated the ability to achieve financial viability as well as good performance results. If the main goal is to lead regional health systems to a more appropriate healthcare workforce allocation, a more effective way could be to focus on the outcome and output achieved in relation to the whole set of resources allocated. The linear cut forced Italian regional health care systems to maintain the 2004 input skill mix, limiting the regional capacity to autonomously organise care in relation to epidemiological and technological changes, without taking into account the overall healthcare workforce shortage that was already happening worldwide [47]. In this perspective, the reform limited the possibility of modifying the mix of resources at stake – both different professional figures and between human resources and innovative technologies – which, according to the Expert Panel on effective ways of investing in Health" of the European Commission [48], represents a key factor to guarantee the sustainability of public health systems.

5. Conclusions

This research adds evidence to the literature focusing on expenditure control in health systems by analysing the effect of a cutback initiative implemented in a Beveridge federal system. Our results confirm that a short-term and reductionist approach when defin-

ing expenditure targets may produce unintended consequences in the allocation of resources, limiting the autonomy of the systems' management at the devolved level. Thus, the ability to manage future crises may be undermined by such cutback strategies on staff and services [19]. Alternatives to linear and targeted cuts in regional health expenditure should cope with productivity and efficiency gains. In fact, as demonstrated by Nuti et al. [49] and Cafagna et al. [50], adopting an approach that aims at improving quality of care and equity could also address financial performance, thus contributing to pursuing the sustainability of the overall system.

Further developments of this research could be focused on the analysis of the relationship between the unintended consequences affecting the input of the health system and the one emerging when assessing outputs and outcomes. Framing the unintended consequences of a policy according to an instrumental view of performance and investigating the relationship between the different performance domains may indeed support decision-makers at all levels in designing cutback management policies according to the holistic and long-term perspective claimed by Pandey [18].

The research here developed presents two main limitations. First of all, it is based on the experience of a single European member state which undermines the possibility to generalise the results obtained. Second, it focuses on a single cutback management initiative that happened within a complex framework of regulations aimed at achieving financial viability.

Declaration of Competing Interest

None.

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