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Structural gaps in public finance: causes and remedies

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Abstract.
Examining five decades of data for developed countries, this paper considers why public expenditures persistently exceeded public revenues in almost all developed countries by the end of the 20th century, the consequences of those structural gaps in the public finances and the ways in which they can best be bridged and avoided. It adopts a multidisciplinary holistic approach, considering not just financial issues but also economic, social, institutional, managerial and cultural imperatives and likely future pressures on public expenditures. It concludes that is no panacea and that the removal of structural gaps requires strategic restructuring of the economy, polity and society. A comprehensive strategy for achieving sustainable public finances is outlined which is conceptually distinct from the neoliberal argument that governments should simply 'get out of the way' of the private sector in order for the economy to flourish.
Keywords. Structural gaps, financial performance, institutional and managerial imperatives in local development economies.
JEL classification. H11, H72

Resumen.
Al analizar cinco décadas de información para para países desarrollados, este trabajo considera por qué en casi todos los países desarrollados el gasto persistentemente excede los ingresos públicos al final del Siglo XXI y las consecuencias de esas diferencias estructurales en las finanzas públicas y las formas en las cuales los países logran sobrepasar y evitarlas. Lo anterior se hace con un enfoque multidisciplinario y holístico al considerar no sólo aspectos financieros pero también imperativos económicos, sociales, institucionales, administrativos y culturales y una forma ver las presiones de los gastos públicos a futuro. Se concluye que no es una panacea y que el eliminar las diferencias estructurales requiere de una reestructuración estratégica de la economía, la política y la sociedad. Se hace un bosquejo de una estratégica que sirva para alcanzar finanzas públicas sostenibles la cual conceptualmente es distinta del argumento neoliberal acerca de que los gobiernos deberán simplemente dar paso al sector privado para que florezca la economía.
Palabras clave. Sesgos y diferencias estructurales, desempeño financiero, imperativos institucionales y administrativos en economías locales desarrolladas.
Clasificación JEL. H11, H72

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Introduction

This paper considers why public expenditures persistently exceeded public revenues in almost all developed countries by the end of the 20th century, the consequences of those structural gaps in the public finances and the ways in which those 'black holes' can best be filled. The following analysis recognises the holistic nature of public finance and adopts a multidisciplinary approach, considering not just financial issues but also economic, social, institutional, managerial and cultural imperatives.

This multi-faceted approach is necessary because public finance issues are the concern of parliaments and politicians, policymakers, practitioners, financial auditors, financial markets and ratings agencies, taxpayers, service users, citizens etc. This wide range of stakeholders demonstrates the very broad nature of public finance and the strategic issues surrounding it, not least the need for the public finances to be sustainable in order to fund public sector services, socioeconomic and physical infrastructure and welfare benefits at stable levels of provision.

Unsustainability and instability in the public finances causes problems not only within individual countries but also internationally because of the potentially very negative systemic effects at the geo-political level and for the international financial markets from which governments borrow. The systemic nature of public finance means that it is not just a narrow financial or budgeting issue specific to a single country.

The paper sets its analysis within the political economy of developed counties, namely Neo-liberalism and that political philosophy's interpretation of the value for money of government intervention in economy and society (i.e. economy, efficiency, effectiveness) and equity. It then adopts a historical perspective, considering why the public finances grew faster than national income during the second half of the 20th century and the first decade of the 21st. The paper then goes on to consider the resultant structural gaps, how governments have attempted to bridge them, and the measures required to remove them, in both theoretical and practical terms. Austerity and pro-growth policies are analysed before outlining a strategy for sustainable public finances. The paper concludes that achievement of sustainable public finances requires much more than public sector austerity and that even faster economic growth is no panacea. More fundamentally, the restructuring of economy, polity and society is also required.

Public Finance and Political Philosophy

The level and composition of the public finances reflects the relationship between the citizen and the state and the dominant political philosophy, whether Libertarian, Neo-Liberal or Collectivist, as summarised in Table 1.

Table 1: A Simplified Taxonomy of Philosophical Principles for Public Finance

Libertarian[1]	**Neo-liberal**	**Collectivist**
Classical liberal theory	Modern liberal theory	Civic theory
Defining features		
Autonomy of the individual	Primacy of the individual	Mutual dependence
Unregulated markets	Modified markets	Reject markets

Negative rights only2	Negative plus limited positive rights	Full positive rights3
Laissez-faire state	Enabling state	Provider state
Capitalism4	Mixed economy5	Socialism6
Beliefs		
The state is corruptible	The state is a necessary evil	Benevolent state
Taxation is confiscation	Taxation for efficiency	Taxes for social aims
Moral hazard/dependency culture	Promote human capital	Build social capital
No moral case for equality	Equality of opportunity	Equality of outcome
Private property rights are inviolable	Property rights reflect policy aims	Property is theft
General Implications		
No such thing as society	**Weak conception of society**	**Society emphasised**
Private enterprise guarantees rights	Modified market rights	State confers rights
Individuals are consumers not citizens	**Individuals are primarily consumers**	**Citizens firstly**
Depend on charity & active citizen	State supplements charity/voluntary action	State replaces charity
Implications for the Public Sector		
Minimal state	Heavily constrained state	Expansive state
Enforces only negative rights7	Some limited positive rights8	Full positive rights9
Private sector provision of public services	Private or public sector provision	Public sector provision
Minimal welfare state (‘safety net’ only)	Conditional welfare state10	Unconditional welfare
Private insurance	Public plus private insurance	Public insurance
Implications for Public Finance		
Minimal public finance	**Restrained public finance**	**Unrestrained public finance**
Private spending replaces public spending	Seek additionality of public spending	Public replaces private spending
Minimise ‘burden of taxation’	**Tax ‘bads’ not ‘goods’ for efficiency11**	**Redistributive taxes for equity**
Regressive taxes	Proportional taxes	Progressive taxes
Borrowing and public debt very limited	Borrowing/debt for efficiency purposes	Borrowing/debt for welfare

Source: Bailey 2004

Notes:

1. The term ‘Libertarian’ is used to denote classical liberal theory in order to distinguish it from modern liberal theory, here referred to as ‘Neo-liberal’ in order to avoid confusion.
2. Freedom from coercion, interference, discrimination.
3. Social and economic rights.
4. An economic system based on the private ownership of the means of production, distribution and exchange.
5. An economic system in which the public and private sectors coexist side-by-side.
6. An economic system in which the means of production, distribution and exchange are owned collectively by the community, usually through the state.
7. Via system of justice: police, courts, prison etc.
8. To education, health care, culture etc.
9. Social justice
10. For example, social security payments only payable to those in paid employment (work-based welfare)
11. ‘bads’ includes polluting activities (e.g. driving a car and disposal of household waste); ‘goods’ includes economically and socially productive activities such as work and investment.

The categorization of the three political philosophies in Table 1 demonstrates that public finance is about much more than just money. It also reflects the constitutional and cultural relationship between citizens and their governments. A society's underlying political philosophy reflects not only the rights but also the responsibilities of citizens for their own livelihoods and that of their families and communities.

In particular, these three political philosophies have very different conceptions of the economy, efficiency, effectiveness and equity of the public finances. Table 2 summarises these '4Es' in accordance with the defining features, beliefs and implications of the three categories of political philosophy summarised in Table 1. Their different definitions of the 4Es have very different implications for the role of public finance and the nature and composition of the public finances within individual countries and at a geo-political level (e.g. within formal groupings of countries such as the European Union), as will be made clear below.

Table 2: Alternative Philosophical Interpretations of the 4Es

	Libertarian	Neo-Liberal	Collectivist
Efficiency	Very narrow concept: market efficiency.	Modified market efficiency: qualified by the public interest	Very broad concept: social efficiency
Equity	Judged in terms of free market welfare outcomes: reward for effort and talent	Judged in terms of work-based welfare: rights and responsibilities	Judged in terms of social welfare: vertical equity and social needs
Economy	Secured by restricting government intervention to safeguard only negative rights	Secured by only pursuing equality of opportunity through modified markets	Not a relevant concept when meeting collective needs through equality of outcome
Effectiveness	Best achieved by *laissez-faire*, freeing markets to maximise productivity and profits and relying on trickle down to poor groups of the benefits of economic growth	Limiting markets' maximising behaviour where necessary to avoid market failure whilst recognising the possibility of government failure	Best achieved by rejecting markets' maximising behaviour in favour of government intervention to secure socially acceptable outcomes

Source: Bailey 2004

Table 2 makes clear that the three mutually exclusive political philosophies upon which the public finances of a country can be based have very different views about the impact (positive or negative, actual or potential) of public finance on society and economy. Nevertheless, whatever its political philosophy, a country's public finances must be sustainable if they are to deliver the 4Es and it is here that principles and pragmatism interact in determining the scale and composition of the public finances. Likewise, there is still much room for argument about whether there should be more or less public finance than is currently the case in order to deliver improvements in the 4Es. Essentially, argument revolves around whether more (or less) state intervention is beneficial or harmful to economy and society. Such arguments underpin national, regional and local government elections and concern who should receive state assistance, in what forms and levels, how effective is that assistance, and how should the voted-for negative and positive rights be financed (see notes 7 and 8 to Table 1).

Historically, the scale of public finance has increased as a proportion of national income (measured by gross domestic product, GDP) as made clear by the data series published by the OECD since the early 1960s. Greater state intervention (measured by public spending as a share of GDP) has occurred in all developed countries, reflecting the growth of welfare states in particular. Nevertheless, since the 1990s, there has been a simultaneous global shift away from dominant Collectivist philosophies and their planned economies towards dominant Neo-Liberal market-based approaches to the organisation of economy and society. Neo-Liberal policies including privatisation and conditional (i.e. work-based) welfare have become more widely adopted, reflecting a growing acceptance that, whilst it can deliver greater equality in the share of national income and wealth between its citizens, too high a scale of public finance could reduce national prosperity and so be at the expense of overall prosperity and standards of living.

National income may not fall in absolute terms but, instead, against the counter factual, this being relative to what prosperity would otherwise have been in the absence of such a relatively high level of public finance. The latter would be the result if higher levels of income-support and taxation created substantial disincentives for citizens to seek paid employment and/or if high taxes on businesses created disincentives for companies to invest in profit-seeking activities. The result would be high levels of welfare dependency simultaneously with low levels of the tax revenues necessary to meet the costs of that dependency.

Observing the principles of a country's political philosophy has to be constrained by pragmatism if there are such substantial disincentives to economic activity. This is because the net benefits of additional public finance will be small if there are such significant trade-offs between equity and the other 3Es of efficiency, economy and effectiveness. Hence, public debate about a given country's public finances focuses on whether incremental changes in its level has net benefits or net costs for economy and society as a strategic issue. The increasingly widespread adoption of Neo-Liberal political philosophy during recent times reflects greater questioning of the benefits of increased levels of state intervention in the traditional direct-provider tax-financed form.

The 'public interest' is commonly used to defend greater levels of such state intervention but, being based on conceptions of the 4Es, the precise meaning of that term differs according to the adopted political philosophy and reflecting the trade-off between principles and pragmatism. Hence, the 'public interest' is subject to changing perceptions of the 4Es and the changing balance of emphasis between them (see Table 2). What constitutes equity, efficiency, economy and effectiveness changes over time and so governments have to rebalance negative and positive rights in order to secure the objectives of those 4Es. Those rights may include not only access to the system of justice, health care, education and other public services but also to income support provided by the state. All these areas of state intervention have been subject to various forms and degrees of austerity by governments attempting to close the structural gaps in their public finances by balancing their spending against their tax (and other) revenues.

The Rising Scale of Public Finance

The conventional measure of public finance is the public spending/GDP ratio. Having increased substantially over the second half of the 20th century, this ratio is now relatively high within West European countries (see Figures 1 to 3).

On average, public expenditure in OECD countries rose from just over a quarter of GDP to two-fifths after 1965. These relatively high and rising public spending/GDP ratios of developed countries mostly reflect rising current (not capital) expenditures, particularly social security transfer expenditures (state pensions and other forms of income support). This trend is most notable in European Union (EU) countries. Exhaustive public expenditures on public sector services generally only kept up with the growth of GDP after the mid-1960s.

OECD average current expenditure was less than a quarter of GDP in 1960, rising to over a third by the mid-1970s and to 37% of GDP by 1981, thereafter fluctuating around that level. It exceeded 50% of GDP over decades in Belgium, Denmark, the Netherlands and Sweden. The ratios for South Korea and Mexico were below 20% in the 1990s and Japan was below 30% until 1998. Non-European countries were below OECD averages, as were European countries before the mid-1970s (especially the EU), rising above it thereafter (especially the EU) on a rising trend.

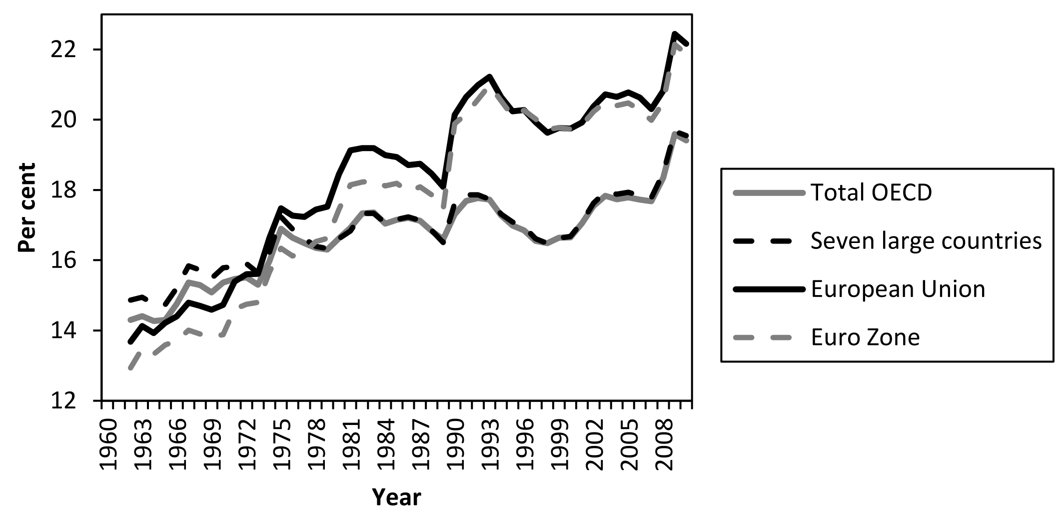
The OECD average for capital expenditure fluctuated around 21% of GDP after 1960, European countries being below the OECD average (especially the EU). However, the group of countries joining the EU in 2004 and 2007 (the 'accession countries') were above the OECD average, as were the non-European countries. This was generally the result of capital expenditures being used to foster economic growth.

These growing public expenditures were financed by higher taxes and by higher public sector borrowing. On average, tax payments in OECD countries rose from a quarter to a third of GDP over the last 40 years of the 20th century but remained significantly less than the share of public expenditure within GDP. The greatest increases were in personal income tax (rising from 7 % to 10 % of GDP) and social security contributions (rising from 5% to 9% of GDP). Other tax/GDP ratios remained quiet stable, displaying no rising trends. Taxes on goods and services remained at or close to 7% of GDP, property taxes 3% and taxes on corporate income 3 %. The remaining 2% or so of GDP accounted for by tax revenues was raised from taxes on capital gains, inherited wealth, land (as distinct from property), poll taxes (a fixed amount per capita), environmental ('green') taxes etc.

The average growth of spending on public services in OECD countries only kept up with the growth in GDP from the 1960s. Since the 1980s, however, their relatively high public spending/GDP ratios were increasingly due to current (rather than capital) expenditures and especially social security transfers, especially in EU countries (see Figures 1 to 3).

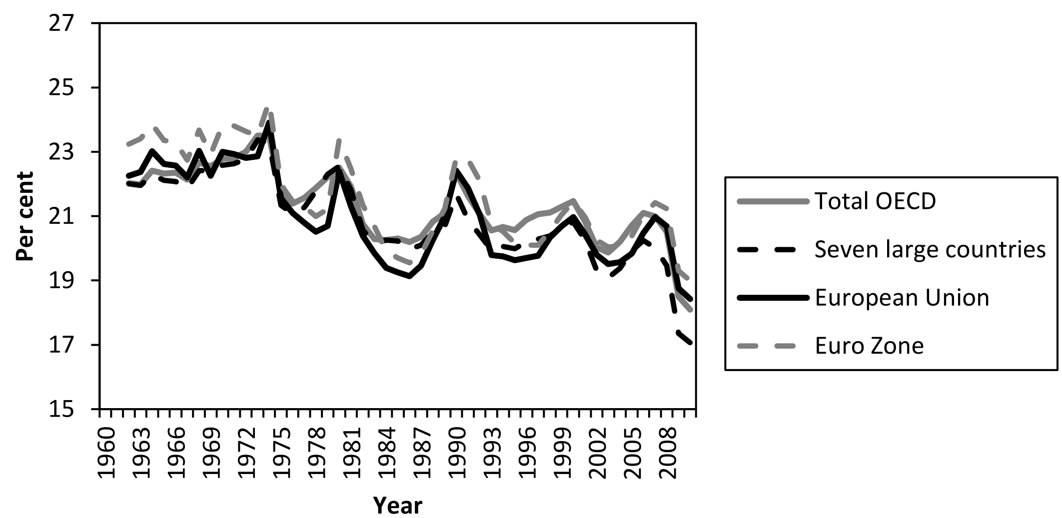
Relative to OECD averages, EU governments have had relatively high levels of final consumption expenditures on goods and services (Figure 1), average levels of capital expenditures (Figure 2) and significantly greater social security transfers (i.e. welfare payments), especially the Eurozone countries (Figure 3). EU countries' social security transfers were below the OECD average before the mid-1970s but above it thereafter with a rising trend.

Figure 1: Government final consumption as a percentage of GDP: OECD versus EU and large economies



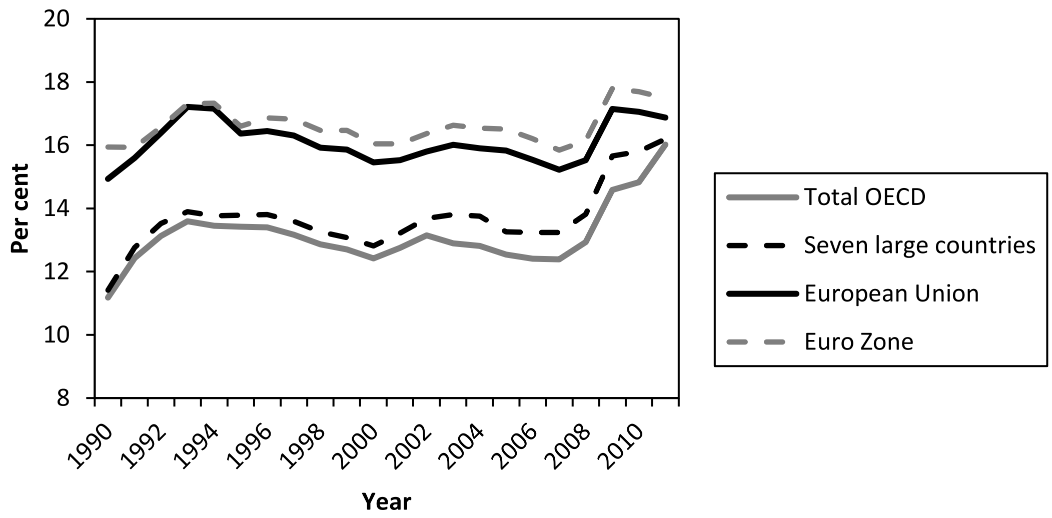
Source: Bailey 2017.

Figure 2: Government capital expenditure as a percentage of GDP: OECD versus EU and large economies



Source: Bailey 2017.

Figure 3: Social benefits other than social transfers in kind as a percentage of GDP: OECD versus EU and large economies



Source: Bailey 2017.

During the second half of the 20th century, rapid economic growth resulted in higher tax revenues from expanding tax bases as incomes, profits and expenditures rose. Nevertheless, the rising percentages of GDP accounted for by current expenditure was increasingly financed by public borrowing because tax revenues were persistently and increasingly less than current expenditures, leading to rising public sector debt/GDP ratios (Bailey, Vakama and Salonen 2014).

Additionally, moderate to high inflation reduced the real value of public sector debt. However, economic growth and inflation began to fall in the early 21st century and there is now a huge legacy of public sector debt resulting from governments having increasingly spent more than they could fully finance from tax revenues. This legacy has been exacerbated by relatively generous income-support programmes, especially in Eurozone countries which also spend relatively high percentages of GDP on health, education and other social services.

From the Neo-Liberal point of view, governments were too prone to raise tax revenues from socially and economically beneficial activities such as employment, thereby creating disincentive-to-work and disincentive-to-investment effects and resulting in the growth of GDP being less than it otherwise would have been. As noted above, these effects may limit the additional benefits financed by higher ratios of taxes to GDP. Instead, governments should make more use of (‘green’) taxes on socially and economically undesirable activities such as those creating pollution and congestion. The dependence on taxes on income and jobs perhaps explains the reluctance of governments to balance their budgets, with the result that taxes rarely equalled or exceeded total public expenditure and not even current expenditure in the five decades following 1965. The result was the emergence of structural gaps in the public finances of almost all developed countries.

Structural Gaps in the Public Finances

One year's deficit in a government's accounts does not constitute a structural gap, merely a budgetary deficit. A structural gap exists when deficits do not simply reflect short-lived opposite fluctuations in a government's revenues and spending as the levels of economic activity fluctuate (i.e. incomes, consumption and investment). Instead, structural gaps persist over many years, deficits occurring year after year irrespective of the state of the economy and the levels of income and wealth it generates. Put simply, structural gaps occur even when economies are prospering and tax revenues rise.

The five decades of data presented in Tables 3 and 4 provide strong evidence of structural gaps because most OECD countries' tax revenues have generally not been sufficient to cover their current expenditures, let alone total (i.e. current plus capital) expenditures.

Table 3: Total current expenditure minus total tax revenue

	No. of years where data available	**No. of years where tax > expenditure**	**Percentage of years in which tax > expenditure**
Australia	45	0	0
Austria	47	10	21
Belgium	47	9	19
Canada	47	3	6
Czech Republic	19	1	5
Denmark	47	10	21
Finland	47	26	55
France	47	3	6
Germany	47	3	6
Greece	47	0	0
Hungary	17	0	0
Iceland	32	12	38
Ireland	44	3	7
Italy	47	0	0
Japan	46	21	46
Korea	22	19	86
Luxembourg	41	13	32
Netherlands	45	0	0
New Zealand	17	1	6
Norway	47	6	13
Poland	20	0	0
Portugal	44	0	0
Slovak Republic	17	0	0

Slovenia	17	0	0
Spain	45	3	7
Sweden	46	6	13
Switzerland	47	0	0
United Kingdom	47	4	9
United States	47	0	0

Source: Bailey, Valkama and Salonen 2014
Note: > means "greater than".

In fact, surpluses of tax revenues over current expenditures became increasingly rare over those decades and deficits rose in virtually all countries, at least until the 2000s (see Table 4).

Table 4: Comparison of surpluses and deficits (current expenditure minus tax revenues) (percentage of GDP)

	1965-69		**1970-79**		**1980-89**		**1990-99**		**2000-10**	
	Deficit	**Surplus**	**Deficit**	**Surplus**	**Deficit**	**Surplus**	**Deficit**	**Surplus**	**Deficit**	**Surplus**
Australia	1.4		2.6		5.7		6.2		3.8	
Austria		1.6	3.6	1.4	5.6		7.9		5.8	
Belgium		2.1	1.9	0.7	11.9		7.5		4.7	
Canada	0.3	0.9	3.8		8.7		10.5		6.5	
Czech Republic							2.7	0.9	4.6	
Denmark		3.0	5.2	2.9	10.3		8.8		4.9	
Finland		4.3		5.0		2.9	9.3	1.2	5.7	
France	0.5	0.4	2.2		5.2		6.3		8.2	
Germany	1.8	0.8	4.4		7.7		8.4		9.3	
Greece	2.7		5.4		16.0		12.8		12.7	
Hungary							10.5		8.8	
Iceland		5.5		3.7	0.2	1.4	4.5		6.4	1.5
Ireland	1.8		8.8		13.6		5.1	1.9	5.2	1.7
Italy	4.5		10.6		12.4		8.7		3.9	
Japan		4.1	0.2	3.9	0.7	2.3	3.5	1.7	8.0	
Korea								4.2	1.1	3.1
Luxembourg	3.9		6.7		7.6		4.3	1.4	1.7	2.0
Netherlands	1.9		7.7		11.6		8.6		6.9	
New Zealand							5.3		3.7	1.1
Norway	0.3	0.6	2.7		3.8		6.6		2.0	3.7
Poland							10.2		8.0	
Portugal	1.4		6.4		13.4		9.6		11.8	

Slovak Republic							7.2		7.9	
Slovenia							4.2		5.2	
Spain	1.3		3.5		6.9		6.6		4.0	1.4
Sweden		1.8	3.8	0.6	10.1		11.8		4.8	
Switzerland	2.0		3.4		3.9		5.6		3.8	
United Kingdom	0.3	1.8	5.0	2.8	5.6		6.0		6.5	
United States	1.8		5.6		9.1		7.0		9.1	
Unweighted average	1.7	2.2	4.7	2.6	8.1	2.2	7.3	1.9	6.0	2.1

Source: Bailey, Valkama and Salonen 2014
Note: These figures are averages for years of deficit or surplus

Tables 3 and 4 make clear that persistent structural gaps in the public finances have existed in virtually all OECD countries over many decades. Those gaps were hidden in the past by high inflation that reduced the real value of public sector debt and by low or negative real interest rates on debt as the rate of inflation was close to or greater than the rate of interest on that debt. Some governments (central, regional and local) also disguised their structural gaps by raising revenues from privatisation, by borrowing off-balance sheet and by use of private finance initiatives (PFIs) and public-private partnerships (PPPs) (Bailey, Asenova and Beck 2009).

The borrowing and debt to GDP ratios rose sharply during the 2007-09 credit crunch and following years in countries that bailed out commercial banks in their territories and as expansionary monetary ('quantitative easing') and fiscal (especially infrastructure investments) policies attempted to offset recessionary forces. Hence, data for borrowing and debt for those years are not necessarily indicative of structural gaps. Suffice it to say Tables 3 and 4 show that structural gaps were present in the public finances long before the credit crunch and subsequent Eurozone crisis.

Bridging Structural Gaps

Governments could avoid increasing the overall levels of taxation and borrowing by making more use of other sources of revenue. These include charges for services, receipts from privatisation and sales of public sector assets, state lotteries, donations and bequests and payments 'in kind' whereby developers of real estate agree at their own expense to construct roads, schools and other infrastructure before donating them to the local governments in whose jurisdictions the development is to take place (Bailey 1990).

In theoretical terms, tax-based public finance is required for only for pure public goods that the private sector could not provide because it could not recover the costs of provision through market prices. This market failure occurs because the benefits of public goods such as national defense and law and order are non-excludable (as well as non-rival) and so the providers of those services cannot recover payment from those who use or otherwise benefit from them.

Although these types of services have to be collectively financed by compelling citizens to pay taxes, they do not account for the majority of public services. Although most public services are rival and excludable in use (e.g. health care and education), meaning that their costs could be recovered by charges, their efficiency can be improved by subsidising their provision to reflect the wider benefits to economy and society (e.g. of a well-educated and healthy labour force). Nevertheless, this efficiency rationale generally only justifies partial subsidy of costs, not full subsidy and in most cases user-charges should be the primary (not residual) source of public finance (Bailey 1994a, 1994b, 2010; Bailey and Fingland 2005). Equity issues could be resolved by taking account of ability to pay by measuring the income and/or wealth of service users through a comprehensive system of means-testing upon which vouchers for services could be based (Valkama, Bailey and Elliot 2010, Elliot, Valkama and Bailey 2010).

More generally, public sectors need to become more innovative in the ways in which they raise revenues, paying much more attention to how to maximize their income rather than simply being preoccupied with spending it, there being a multitude of ways to raise revenues for infrastructure and services (Bailey 2013).

The Neo-Liberal Resurgence

Towards the end of the 20th century, Keynesian expansionary economic policies were superseded in policy circles by the Neo-Liberal view that the state sector was growing at the expense of the market sector. Excessive regulation of the market economy, high taxes and generous welfare payments were increasingly thought to make work and enterprise less worthwhile. Hence, reducing government intervention became regarded as in the public interest, leading to improved economy, efficiency and effectiveness, 'trickle down' supposedly satisfying equity. These Neo-Liberal arguments became increasingly pervasive as deregulation and globalisation of markets developed during the 1980s and 1990s. They provided the rationale for public policies aimed at 'rolling back the frontiers of the state' through privatisation (sale of state-owned assets to the private sector) and contracting out to the private sector the provision of public services formerly contracted in to the public sector. In addition, governments increasingly adopted other Neo-Liberal policies, most notably PFIs and PPPs for the provision of public sector infrastructure and associated services.

These and other such Neo-Liberal policy programmes (e.g. conditional work-based welfare and reduced taxes on work and enterprise) intended to increase opportunities for the private sector to grow and provide public sector services. The Neo-Liberal premise is that economy, efficiency and effectiveness will thereby improve, leading to rising productivity and so growth of GDP. In turn, rising GDP would result in public spending and taxes falling as ratios of GDP. By such means, the scale of the public sector would fall in relative if not absolute terms and that the persistent imbalance in the public finances would diminish over time. The major fault of this logic is that it considers neither pragmatic nor theoretical solutions for elimination of structural gaps.

Pragmatic Solutions for Structural Gaps

There is ultimately a limit on the additional benefits achieved by an ever-higher relative scale of public finance, there being a level of spending where costs exceed additional benefits conferred on society. As public spending and revenues account for an increasing share of national income, the costs of ever-higher levels of public finance may rise faster than the benefits it delivers. Costs are the direct (financial) costs of additional state intervention and the indirect (non-financial) costs resulting from behavioural responses to high taxes such as disincentives to work. Because the balance between those benefits and costs changes over time, public finance is a dynamic rather than static phenomenon.

Disincentive-to-work and disincentive-to-invest effects can be expected to increase with rising levels of taxation and diminishing marginal returns (i.e. benefits) can be expected to result from increasing public expenditures and services. Hence, ultimately, incremental costs exceed incremental benefits. Ensuring the cost-effectiveness of public spending (i.e. value for money) can postpone this outcome, seeking cost containment and net additionality of public finance.

Cost containment requires political, economic and administrative controls over public spending. Political control requires robust democratic processes with clear priority setting and public service providers being accountable for outputs and outcomes. Economic cost controls include payment for services at point of use, competition in their supply, and inter-governmental grant mechanisms encouraging control of costs. Administrative cost controls regulate the inputs and processes used to provide services.

Maximising the net additionality of public finance requires avoidance of deadweight loss (resulting from subsidising a level of activity that would have occurred without public subsidy) and displacement of public funds to unintended uses.

Although securing cost containment and the net additionality of public finance will together reduce the rate at which costs exceed benefits there will ultimately be a level of public spending where they are equal, this being the optimal level of public finance that should not be exceeded, irrespective of whether tax revenues are available to pay for more public spending.

At a practical level, each proposal for more spending should be considered in terms of the balance between net costs and net benefits and, likewise, each proposal for cuts. In the latter case, the social risks arising from cuts in public services and welfare payments have to be considered because, if realized, those risks may lead to higher future costs being faced by the public purse (Asenova, Bailey and McCann 2013, Asenova, Bailey and McCann 2014, Asenova, McCann and Bailey 2015). Hence, assessment of costs and benefits has to go beyond the current accounting period.

Theoretical Solutions for Structural Gaps

Structural gaps result from a lack of symmetry between decisions to spend and to raise revenues, the amount of tax paid by citizens bearing little if any direct relationship to their use of public services financed collectively via taxes. It was noted above that tax-financed subsidies could be justified for services generating significant wider social benefits. Collective financing of these positive externalities improves allocative efficiency. The counterargument, however, is that the ‘logic of collective action’ results in chronic government failure. That failure arises because of the concentration of the benefits of public services on their users whilst the resulting costs spread across all taxpayers (including those of future generations). This lack of symmetry creates a tendency for expenditures to exceed revenues over the long term, as voters demand more public services whilst not having to pay their full financial costs.

The logic of collective action assumes individuals not only consume more of a service that is subsidised than if they had to pay full costs but also that they form like-minded groups through which to proactively lobby for greater provision, the costs of which are passed onto other taxpayers. Resistance by the current generation of taxpayers to higher tax liabilities causes a significant proportion of those costs to be passed on to future generations of taxpayers as governments accumulate debt by borrowing to finance current consumption (i.e. current expenditure). Borrowing for capital expenditures on infrastructure would benefit those future generations but as noted above, current expenditures grew much faster than capital expenditures during the second half of the 20th century, especially on welfare payments. Hence, future generations of taxpayers are effectively being required to subsidise the living standards of the previous generations of taxpayers. This situation is antidemocratic and unethical because those future generations obviously have no say in the matter and face a debt legacy irrespective of their ability to finance its repayment.

Prevention of structural gaps requires a comprehensive strategy for prudential public finances so that the public finances become sustainable in the long term. Besides restricting the role of the state to core functions, continuing to provide negative rights but fewer positive rights, remedies for structural gaps must be consistent with the logic of collective action that requires governments to match liability to pay with decisions to spend.

Such symmetry requires a combination of complementary measures. First, replace tax finance of services with charges (means-tested only if absolutely necessary) so that users of public services pay for them directly. Second, devolve decision-making powers to the lowest possible levels of government and make them as self-financing as possible through local taxes and charges in order to constrain voter and user demand. Third, reduce payment of central government grants to local and regional governments as they become increasingly self-financing. Fourth, use borrowing only to finance truly productive capital (not current) expenditures that benefit future (as well as current) generations of taxpayers. Fifth, adopt a prudential borrowing framework to ensure borrowing is sustainable, this being the case when used for spend-to-save capital expenditures (Bailey, Asenova and Hood 2012). Sixth, reform accounting rules to make debt and other such liabilities more transparent (Oulasvirta and Bailey 2016).

Closing Structural Gaps: Austerity or Growth?

The hope is that a return to fast rising GDP will progressively eliminate structural gaps. However, this has been made less likely by the public sector austerity measures adopted in many countries as they try to bring their deficits under control. Ongoing austerity measures typically include cuts in (or constraining the growth of) state pensions and other welfare payments, cuts in public sector jobs and pay rates, privatisation of state property and other structural reforms aiming to make countries more competitive on world markets. Other measures intended to close structural gaps in the public finances include raising tax revenues by increasing the rates and bases of existing taxes (e.g. value added tax), introducing new taxes (e.g. on air passengers and sugary drinks) and new or higher charges for public services (e.g. public transport, social care and university tuition).

The emphasis in most countries, however, has so far been on reducing public spending rather than raising substantially more revenues. Higher taxes may make exports less competitive on increasingly globalised markets and so may inhibit export-led economic growth at the very time it is necessary to promote it. Although privatisation receipts can reduce debt, they are finite and so cannot fill structural gaps that persist over decades. More strategically, privatisation can help governments restructure economies to make their markets more competitive and so stimulate economic growth. Similarly, further borrowing should be for capital (not current) expenditures on economic infrastructure promoting sustainable and self-reinforcing growth of GDP over the longer term.

Hence, austerity ('fiscal consolidation') must go hand-in-hand with a pro-growth strategy because sole reliance on cutting public expenditures will be deflationary, at the cost of growth of

GDP, and so inhibit closing the structural gap in the public finances.

Recent claims that reducing ratios of debt to GDP to below 90% will automatically lead to substantially higher growth of GDP (Reinhart and Rogoff 2010, Reinhart, Reinhart and Rogoff 2012) has been criticised for confusing cause and effect (Herndon, Ash and Pollin 2013) and so austerity-led growth may be illusory. If so, reducing spending on public services and welfare payments will not necessarily lead to the rapid growth of the private sector that is necessary for economic growth.

Indeed, it may not be possible to return to the fast rates of economic growth during the second half of the 20th century. It is arguable that developed countries' historically high rates of growth were the result of the rapid post-second world war rebuilding of European economies. Although it engendered a widely held belief that economies would continue to grow, this may not be the case during the 21st century. If so, economic growth and the associated tax revenues will not be high enough to generate sufficient finance for continually expanding welfare states and the investments in physical and human capital necessary to finance further growth.

Hence, it is questionable whether these policies will be sufficient to achieve budgetary surpluses with which to reduce public sector debt and also finance supply-side measures to improve productivity and so economic growth. Demand for public services such as health care is likely to continue to rise, the number of people of pensionable age will continue to grow in most countries and conventional municipal austerity measures will be of limited effectiveness.

Pensions and health care already account for almost half of public spending in most developed countries. The costs of state retirement pensions will continue to rise as people live longer, if forecasts of increasing longevity prove accurate. Moreover, increasingly elderly people develop multiple chronic conditions, placing unprecedented demands on public health services. The World Health Organisation and World Obesity Federation foresee rapidly rising costs of treating obesity-related illnesses, including cancers, heart attacks, strokes and diabetes and other adverse effects such as damage to hip and knee joints and back pain. These non-communicable diseases are the primary causes of death in developed countries. In developing countries, the ill-effects of rising obesity are exacerbated by rising rates of smoking cigarettes.

Along with rising rates of dementia and frailty amongst increasingly elderly demographic profiles in developed countries, these chronic conditions will place increasing and perhaps unbearable financial burdens not just on public health and social care services but also on individuals and private health insurance schemes as people live longer but not healthier.

Financial strains on the public finances may result even if developed countries regain their previous fast rates of economic growth, especially if it leads to greater inequality in the distribution of income. This could result from the adoption of artificial intelligence (AI) in production, including robots. AI may create more low-paid and high-paid jobs whilst 'hollowing out' jobs in the middle of the pay scale. Development of such a bifurcated economy has already been developing in line with automation of manufacturing processes and use of information technology (IT) in services such as banking and finance. Albeit speculative, greater income inequality may place greater demands on welfare states. Neoliberal fiscal consolidation policies (i.e. public sector austerity) may themselves increase inequality and there is evidence that, in turn, inequality reduces both the rate and duration of economic growth (Ostry, Berg, and Tsangarides, 2014; Ostry, Loungani and Furceri 2016).

Raising Productivity to Close Structural Gaps

The foregoing analysis suggests that closing structural gaps in the public finances will require much more than conventional austerity and cost containment measures. Most importantly, public sector productivity needs to increase significantly. However, the public sector is said to be inherently incapable of raising its productivity because of the face-to-face nature of its services in health care, education, etc. Referred to as Baumol's cost disease (BCD), this hypothesis is false because it misconceptualises public services as categorically distinct from manufactured goods and is based on a theory of productivity not directly applicable to many public services, therefore failing to recognize evidence of substantial scope for improving public services' productivity. In particular, the structural and behavioural unbundling of value creation and decomposition of professional skills in service provision can improve productivity in public services and so Baumol's Cost Disease (BCD) is conceptually confused, theoretically misspecified and empirically blind (Bailey, Anttiroiko and Valkama 2014).

Local governments are the main providers of public services in developed countries and their austerity measures have so far sought'quick win' management approaches. They include marginal cuts to all service budgets, freezing vacant posts, pay freezes, reduced service availability (e.g. opening hours of service points such as libraries), postponing repairs and maintenance expenditures and cancelling capital expenditures. These short term measures are neither sufficient nor sustainable in terms of service strategy and objectives, only buying time before introducing longer-lived measures. Medium term measures include provision of only statutory (not discretionary) services, strategically structured redundancies & early retirements, public sector pay limits, service departments sharing finance, legal and other back-office services and integrating and condensing senior management structures. Long-term measures include integration of front-line services (e.g. social & medical care of elderly people), merging municipalities to achieve economies of scale and scope where available and reforming public sector workers' pensions to reduce their costs by raising the retirement age and requiring employees to make increased contributions into their pension funds.

Potentially significant long-term savings can result from limiting the demand for services. The simplest approach is to develop self-service for digitised information & advisory/support services. More ambitiously, new service technologies in health, social care and education have the potential to improve access to (and effectiveness of) services without having to increase public sector employment. Ultimately, services must move away from crisis management to prevention in order to reduce service demand. For example, early-intervention in health care has the potential to prevent emergence of the non-communicable illnesses associated with diabetes noted above. Most countries' public health services were established to deal with communicable diseases such as polio and tuberculosis but these are no longer the major causes of illness and mortality in developed countries. Hence, a new health service model is required to deal effectively with non-communicable diseases.

Clearly, both supply-side and demand-side approaches to closing structural gaps are required. Both approaches must recognise and overcome many barriers. Bureaucrats and service workers afraid of losing budgets and jobs will resist the measures outlined above, as will existing service users wanting existing levels and methods of provision to continue. As well as exacerbating inequality of incomes, austerity measures focusing on reducing budgetary costs may be counterproductive in the long term, creating disproportionately negative effects on the elderly, people with disabilities and long-term illness, homeless people, single parents, ethnic minorities and adolescents. These groups tend to be relatively more reliant upon public services and so their withdrawal creates social risks that may lead to higher costs for the public purse in the future (Asenova *et al*., 2013).

Closing structural gaps requires a radical alternative to the traditional direct-provider service model whereby municipalities supply services rather than manage demand for them and so are always under pressure to achieve cost reductions. Public service transformation (PST) involves progressively transforming the model of service provision from direct-provider, through enabling and empowering to a catalytic model in order to change behaviours of both service users and service providers. Proactively managing demand for services by encouraging behavioural changes on the part of service users, citizens and communities is potentially more sustainable than municipalities simply reacting to demand via the direct provider model of service provision. This requires municipalities to be innovative, engaging stakeholders in the co-design and co-production of services, not just individuals but also micro social enterprises and neighbourhood associations, so building resilience by stimulating community-led innovation.

Without PST, services will have to be increasingly rationed and this may only shift costs to other parts of the public sector, ultimately leading to even higher costs by reducing the effectiveness of services, failing to take preventative action to improve the population's physical and mental wellbeing and failing to stimulate new policies for community-led innovation in local service. Instead of 'doing more with less' it is a question of 'doing things differently' (Bailey et al 2014b). Reforming the structure, functions and financing of municipalities has to be complemented by new methods of working, also including 'Smart Cities' utilising not only inter-organisational collaboration and outsourcing but also developing public-third sector partnerships (non-profit models), mutual organisations etc., (Anttiroiko,Valkama and Bailey 2013).

A Strategy for Public Finance

A strategic approach to public finance takes account of the logic of collective action because that logic leads to structural gaps and so compromises the sustainability of public finance. Hence, it is necessary to continually reappraise the financing, operations and outcomes of state activity as economic, social, cultural and other contexts change over time and impact upon economy, efficiency, effectiveness and equity. This 4Es analytical framework underpins strategic public finance, which is necessarily dynamic and evolutionary, a perennial issue of public policy, practice, outcome and sustainability. It is not possible to satisfy objectives for the 4Es without sustainable public finance.

The following checklist provides a useful framework by means of which a truly integrative, strategic and sustainable approach to public finance can be implemented.

- *Consider the possible impact on the constitutional relationship between the state and the individual* whenever taking decisions about public finance.
- *Bear in mind that successive cumulative changes in public finance can have potentially large positive and/or negative effects on society and the economy*. It would be unwise only to be concerned with whether the net effect is positive because the net effect will be highly volatile if it is the residual outcome of two very large and unstable opposing gross effects.
- *Be pragmatic and realistic* about what can actually be achieved by public finance.

- *Recognise that public finance need not be synonymous with public provision*: the private sector can deliver many public services.
- *Pay attention to long-term trends in the four public finance/GDP ratios*, so that the relative scale of public finance does not increase by default rather than by design.
- *Maximise the net additionality of public expenditure*, wherever possible using public finance to complement rather than replace private expenditure that would have taken place anyway.
- *Implement cost containment measures*, there being considerable scope for reducing costs in the public sector without compromising service objectives.
- *Undertake more evaluation studies* of the use and effectiveness of public finance in achieving clearly specified outcome objectives.
- *Undertake more international comparisons* of raising and spending public finance to try to learn lessons and best practice from other countries.
- *Avoid competition-by-subsidy*, e.g. for mobile industrial and service sector investments, essentially a zero-sum game at the expense of taxpayers.
- *Seek to improve the targeting of subsidy*, avoiding middle-class capture of subsidy intended to benefit low-income groups.
- *Minimise the potential for the fraudulent use of public monies* paid as social security, agricultural subsidies etc.
- *Shift the balance of taxation away from 'goods' to 'bads',* avoiding as far as possible taxing socially beneficial activities generating incomes and wealth.
- *Minimise the scope and incentives for tax avoidance and tax evasion* by simplifying tax structures and by avoiding punitive rates of tax.
- *Avoid fiscal drag* by increasing tax thresholds and so tax bases each year in line with inflation of the relevant tax bases (e.g. by index-linking personal income tax thresholds to growth of earnings – linking them to retail prices still results in fiscal drag, albeit reduced, since earnings typically rise faster than prices).
- *Widen tax bases to be able to reduce tax rates* for a given tax revenue, so minimising any disincentive-to-work and disincentive-to-invest effects.
- *Make use of a plurality of sources of public finance* in order to minimise the adverse effects of any one source.
- *Make more use of user-charges*, avoiding any adverse equity effects through use of means-testing or exemptions and discounts for specific groups of user such as children and low-income groups.
- *Encourage income generation schemes within public sector bodies*, for example in seeking sponsorship from the private sector for equipment and in encouraging donations and bequests. Such schemes should not compromise service objectives: they are a means to an end, not an end in themselves.
- *Reduce the need to borrow* by requiring public sector organisations to keep inventories of the capital assets they own and to sell underused capital assets, using the capital receipts to finance new infrastructural investments or to repay debt.
- *Consider how changes in public finance may affect peoples' incentives to work and companies' incentives to invest,* in particular considering how the combination of taxation and social security benefits affects decisions to work.

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- *Make unemployment benefits conditional*, recipients having to undertake training for employment.
- *As far as possible, make social security budgets balance*, i.e. contributions equal to transfers.
- *Prevent the emergence of structural gaps in the public finances*, prevention being much less traumatic and more practical than cure.
- *Devolve public finance decisions to the lowest possible level of government* in order to match as far as possible the areas benefiting from services with the areas from which tax payments are collected.
- *Minimise the need to pay intergovernmental grants to lower tiers of government* by ensuring they have sufficient autonomous revenues and by using Robin Hood systems of fiscal equalisation.
- *Subsidise service users instead of service providers as far as possible*, for example by using vouchers to increase the scope for choice on the part of service clients.

Ultimately, whatever the political philosophy underpinning the public finances, this checklist makes clear the need to use public finance sparingly and judiciously, being prudent, not profligate with public money to make the public finances sustainable in the long term.

Conclusions

Many developed countries face prolonged public sector austerity due to their need to deal with persistent public sector deficits and debt, especially if their economies continue to grow only slowly. They must avoid austerity inhibiting growth and complement their ongoing austerity measures with pro-growth strategies, PST and the strategy for sustainable public finance outlined above. This combined strategy for closing structural gaps in the public finances is conceptually distinct from the neoliberal argument that governments should simply 'get out of the way' of the private sector in order for the economy to flourish.

The above analysis has made clear that is no panacea for structural gaps, no single instant remedy. Their removal requires strategic restructuring of the economy, polity and society and this will necessarily be incremental and evolutionary in order to make the public finances sustainable over the long term whilst delivering the desired benefits to economy and society.

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