"Attachment three"

The Economic Cost of Fire

Factors to be incorporated into a National Policy on Fire Services Resourcing

An interim report into the factors to be considered in the analysis of the economic costs of fire commissioned by the United Firefighters Union of Australia

January 2013

Contents

Introduction

The Federal Government has a responsibility, on behalf of the Australians and the economy, to implement a national policy and empirical basis for resourcing fire protection and suppression nation-wide.

The cost of fire as a proportion of GDP should form the starting point for a national evaluation of the cost benefits of increasing and improving the quality of fire prevention expenditure.

The indications are that the cost of fire as a proportion of GDP is now substantially higher than it was a decade ago, and will continue to rise in line with factors outlined in this report. [1]

This report identifies some of the economic costs of fire that need to be incorporated into national evaluation of the cost benefit of the provision of fire services.

It also highlights the need for a national policy and response to reduce the moral hazard in fire protection funding, and ensure the adequacy of investment by States into fire services.

Key recommendations flowing from the report are as follows.

The Federal Government has an obligation to:

1. Comprehensively evaluate cost of fire as a proportion of GDP as a starting point for an evaluation of the cost benefits of improving the quality of fire prevention expenditure

2. Implement a national policy and empirical basis for resourcing fire protection and suppression nation-wide

3. Ensure that fire services' funding levels and the distribution of costs by States have the least detrimental impact on the overall and fragile elements of the economy

4. Address the moral hazard and increased cost arising from cost shifting by State Governments

5. Investigate the economic benefits of a national system of skills and qualifications supported by a registration board

6. Minimise the consequences and effects of business interruption on communities as a result of fire and other emergencies including severe weather events

[1] This is evidence, for example, by the estimated conservative $4.4 billion cost of the Black Saturday Bushfires estimated by the Royal Commission.

The future economic cost of fire to Australia

The future economic cost of fire to Australia will rise, as reflected by the current frequency of "off record" patterns of increased environmental volatility and projections of future climatic variability.[2]

As succinctly surmised by the Victorian Climate Commission:

- Conditions for large and intense bushfires are likely to become more common in the future. The number of 'very high' and 'extreme' fire danger days could increase significantly over the next few decades.

- Many types of climate-related extreme events are expected to increase in frequency and intensity in the future. The heatwaves, drought and bushfires of the past decade provide Victorians with a window into that future.

- Critical infrastructure, such as roads, railways and power lines, is vulnerable to prolonged exposure to high temperatures.

This is occurring against a backdrop of unprecedented ageing of electrical infrastructure to over 60 years old, which have been found to be a major cause of fire related losses and costs.[3] Compounding this is a national policy directive to reduce expenditure on asset maintenance and replacement.

Under these conditions cost of fire to Australia's economy will rise exponentially if current levels and quality of expenditure in fire preparedness and protection are not increased in broadly in line with risk factor projections.

Economic estimates a decade ago put the cost of fire to Australia at 1.15% of Gross Domestic Product (GDP).[4]

However major fire incidents and the increase in frequency and intensity of fire episodes over the past decade have fundamentally altered the historical 'cost' assumptions.[5]

The cost of fire prevention & protection organizations to Australians, in real terms, is $140.50 per person, the same as in 2006/07.[6]

The increased costs of fire are not being worn by fire services. Funding of fire services have not been proportionately increased to mitigate the increasing costs as a consequence of fires.

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[2] The UN IPCC Reports and the Federal Climate Commission, regionalized impacts on climate, such as the Victorian Climate Commission's 2012 Report are clearly informing government of future climatic conditions.
[3] The average age of infrastructure assets are available from the Australian Energy Regulator. The AER routinely agrees to extend the age of distribution infrastructure assets. The Victorian Black Saturday Bushfire Commission found that 5 out of 11 major fires were started by electrical faults. To date the responsible energy retailers have paid damages in all court cases, without assuming liability.
[4] The Cost Of Fire In Australia, Ashe, B.S.W. (1), McAneney, J. (1), Pitman, A.J. (2)1. Risk Frontiers, Macquarie University, Sydney, Australia. 2. University of New South Wales, Australia, 2009 – based on 2004 Data
[5] The Vic Royal Bushfire Commission's conservative estimate of the cost of the fire and the 197 lives lost of $4billion.
[6] Table 9A.25 Fire service organisations' expenditure per person (2010-11 dollars) (a), (b)

The 'cost of fire' – value of property proxy

The cost of fire has always been difficult to estimate, due in large part to the widespread harm it causes and the different cost 'centers' it effects – eg individuals, businesses, local amenities' providers, natural environment, public & private essential infrastructure providers, insurers, suppliers and industry etc.

This difficulty in attributing the 'cost of fire' across society and the 'users' of fire protection services, is precisely why fire prevention services are considered an economic 'public good'. Simply put, the main beneficiaries of fire services expenditure are not the people who experience fire loss – but those who do not.

The true value of fire protection services is the loss of property, life (and economic continuity) that they prevent. This is extremely difficult to quantify and depends on, the often overlooked, quality of suppression services. This is discussed further below.

One of the better proxies for a measure for the 'value of property saved' discussed above is the total value of property itself.

As the value of property rises, so too does the value of the potential loss from fire. This dynamic has historically formed a major part of how State fire levies were calculated by insurers – that evaluated the fire levy contribution as a proportion of total assets insured. This has changed and State governments now determine the extent to which the value of assets form the basis of the levy charged.

In relation to the value of property, the cost of fire prevention has fallen dramatically against the value of property saved.

According to the Productivity Commission, nationally real funding to fire service organizations grew on average, 2.0 % annually over the period 2006/7 to 2010/11, including expenditure related to specific major emergencies such as the Black Saturday Bushfire. [7]

While housing prices have been subdued over the past several quarters, over the decade to 2012, real median house prices in Australia grew 76% or 5.8% per annum. [8]

In aggregate, it can be seen that the value of houses being protected has increased at about twice the rate as expenditure on fire services. [9]

While this is only one proxy and better economic measures can be used to measure the cost benefit of fire services expenditure will be discussed, it is instructive.

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[7] SCRGSP (Steering Committee for the Review of Government Service Provision), Report on Government Services 2012, Productivity Commission, Canberra. 2012

[8] Lloyds TSB, International Global Housing Market Review, March 2012

[9] ABS CAT 6416.0 - House Price Indexes: Eight Capital Cities, Sep 2012 and previous

Aggregate Economic Cost of Fire

The actual quantum of direct property is only a proportion of the ongoing economic loss from fire related closures of businesses. The most frequently overlooked major cost of fire in Australia is the economic cost of business discontinuity, both temporary and permanent, following a major fire or disaster incident.

Business discontinuity

There is a brevity of analysis of the economic impact of fire in Australia. The 'cost of fire' measures published by the Productivity Commission are the total and median dollar loss from structural fires.[10]

This has resulted in attempts to quantify the 'efficient' level of fire protection services expenditure, without fully quantifying the economic cost of fires.

A major deficiency in the cost of fire in Australian studies has been the absence of calculation of cost to businesses from business discontinuity.

The leading fire research agency in in the US estimates that the national cost of business interruption to be approximately 10% of total direct cost of property damage. The total cost of fire, including business discontinuity, is estimated to be around 2.5% of GDP. In Canada, which shares more geographic and civic features of Australia are also including business discontinuity, are also estimated at 2.5%.

The implications for Australia, are that the economic cost to GDP to fire are likely to be similar, or higher than previous estimates of 1.5% of GDP, once of business interruption costs are included.

Indeed the economic cost to Australia could be higher due to lower reported insurance coverage for business interruption.[11]

Leading international fire research agencies' analysis of academic and insurance industry estimates report that the additional cost of business interruption as follows:

- The indirect losses for manufacturing and industrial properties are estimated at 65% of property damages
- Indirect losses for public assembly, educational, sore and office properties are estimated at 25% of direct property loses.
- Overall parameters estimates for the United States for indirect losses is 20%.[12][13]

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[10] Although other indicators useful for calculating the cost of fires are road crash rescue incidents and total hospital admissions for fire injuries (but not duration) and fatalities, although the latter is difficult to quantify, despite horrendous attempts by Brian Ashe, Felipe Dimer de Oliveira and John McAneney that use a limited list of costs and a bizarre hypothetical "willingness to spend for preventing loss of life" and fire mortalities to make conclusions about

[11] Insurance Council of Australia, 2011

[12] National Fire Protection Association Fire Analysis and Research Division
The Total Cost Of Fire In The United States, John R. Hall, Jr. March 2010

[13] Research was conducted via an online survey of 477 small business owners in Victoria, New South Wales and Queensland on February 6-8, 2012. It was conducted by QOR and commissioned by CGU Insurance.

Suppliers to Affected Businesses

Canadian Insurance Adjusters Association note that business interruption losses at the lower bound of indirect losses because the exclude the costs to other business that are often in the same order of magnitude as the interruption loss to the business itself.

Business and Economic Research Limited (BERL) estimate that the total indirect loss for industrial fires was 45% of the total direct loss, with business interruption claims and supplier losses each accounting for about 20-25% of the total indirect loss.

Observations by the insurance industry show that the major costs to businesses and associated suppliers

Financial impact[14]

- Interruption to cash flow
- Loss of market
- Loss of sales
- Potential increase in insurance premium 7 Increased administrative costs
- Damage to reputation (with customers and within the industry)
- Tension in relationships with customers and suppliers
- Loss of exclusive arrangements with suppliers
- Staff frustration and loss

One often under-calculated cost of business interruption from fire damage, is the loss of information technology equipment and data.[15] There can be serious implications from the loss of operating and financial data including:

- Financial Management and Taxation Records
- Management and Staff time
- Rewriting of financial records
- Accessing records and tax receipts from 3rd parties
- The cost to engage an accountant to re-create accounting records

The costs resulting from the inability to immediately notify suppliers and customers of the status of their can become an additional liability for fire-interrupted businesses.

A significant economic impact results from the 'loss of attraction' of customers and reduced turnover to surrounding businesses. For instance, if a newsagent is in the same shopping center as a supermarket that shuts because of a fire, the newsagent is covered for loss of income caused by the reduction in people visiting the centre.

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[14] IBM. Economic Costs of Business Interruption to the Supply Chain
Port Continuity Conference, New York University, May 18th, 2007
[15] Marian H. Long, Business Interruption Risk Assessment: A Multi-Disciplinary Approach, Journal of Disaster Recovery. 1997

This is a difficult cost-benefit assessment for surrounding businesses to insure for. They have no knowledge of the extent or operation of fire safety and contingency plans of surrounding businesses.

Moreover, the cost benefit of multiple small enterprises insuring against downturns from fire damage to surrounding businesses – is potentially much greater than aggregate fire insurance levies which reduce the overall risk to all entities –without the private insurer's premiums. That is to say fire insurance levies are a classical demonstration of a 'public good' in economic terms. [16]

Duration & Business Closure

The economic loss cannot be measured in the short term and low rates of business survival after fire loss is a major contributor to economic loss, particularly in rural areas where customer and supply chain impacts can result in permanent regional economic decline.

Academic studies and insurance estimates identify the low probability of businesses re-establishing or surviving over the medium term following a major disaster business interruption incident.

Of companies experiencing a disaster:

- 43 percent never reopen and
- 51 percent close within 2 years.
- Only 6 percent of companies suffering from a catastrophic loss survive.[17]

According to a recent survey published by CGU:

- 25% of small businesses in rural and regional areas would not recover if forced to close the doors.
- A further 23% pe cent of business owners said their business survival would be threatened with a closure of three months.
- Of those 62 % with two to four full-time staff said their business could not survive or would have their survival threatened.

AXA reports that:

- "80% of business affected by a major incident close within 18 months".[18]

Similar outcomes are reported by Chubb in 2008:

- that 70% of businesses involved in a major fire either do not reopen or subsequently close in the next 3 years"

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[16] http://www.riskequip.com.au

[17] Ibid

[18] The total cost of fire in the United States, as it is defined, is a combination of the losses caused by fire and the money spent on fire prevention, protection and mitigation to prevent worse losses, by preventing them, containing them, detecting them quickly, and suppressing them effectively. For 2007, that total cost is estimated at $347 billion, or roughly 2.5% of U.S. gross domestic product.

According to KPMG:

- 40 of companies that suffer a major business disruption go out of business within two years.[19]

One of the major economic costs of fire related business discontinuity is the unemployment impact on direct and indirect employees of affected businesses. Many studies have shown the decrease in economic activity is rural areas as a result of fires has resulted in severe reduction in full-time and part-time positions, resulting in significant unemployment.[20]

The economic cost of this multiplier effect from fire losses from largely commercial, industrial and agricultural structural fires are widespread and enduring.

The economic impact on incomes and unemployment is greater for fire disasters has been found to be greater than other disasters, such as major floods. Economic research by the National Centre for Social and Economic Modelling using Commonwealth Bank data found that the number of people employed following a disaster event, in activities such as rebuilding, is minimal in comparison to the number of people who have lost employment.[21]
In rural communities the unemployment effect can more profound, due to the reduced incomes of the affected businesses and suppliers, which further reduce the opportunities for unemployed people to find work.

- The federal government is responsible for contributing to 'disaster relief'and extended unemployment benefits
- The local economy is effected by reduced income and expenditure and outmigration, affecting the viability of the community and reduced investment in even community services, such as hospitals, schools, police office etc. The delays to re-investing in these services (if they are reinvested in at all) contributes to the levels of unemployment and outmigration.
- Individuals and families are effected from reduced income and unemployment which can have inter-generational impacts on long term unemployment.

While the effect of unemployment following a fire disaster will vary significantly. The experience of major bushfires and industrial structural fires demonstrate that the pre-existing higher level of unemployment in these regions.
The National Centre for Social and Economic Modelling research showed that in communities affected by the Black Saturday bushfires, the proportion of the community receiving unemployment benefits rose to 30% in the period following the fire, but continued to remain above pre-fire levels even 3 years following the fire.

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[19] Felipe Alonso, Risk and Advisory Services, KPMG, 'Managing Business Continuity Part 1'
[20] See references in RMIT, Socio-Economic Impact of Bushfires in Rural Communities and Local Government in Gippsland & North East Victori - Centre for Rural and Regional Development, Timber Towns Victoria (July 2003)
[21] The Effects of Fire and Flood on aSample of Bank Customers in Victoriaand Queensland, Yogi Vidyattama, Shelby Canterford, Robert Tanton and Rebecca Cassells, 2011

The age group most effected is the 18-35 year olds. The potential for permanent disadvantage from long term unemployment is already greater for the younger population. Insufficient time has passed to undertake a long-term cost impact of unemployment of younger employed people following a fire or disaster. However these need to be included in the overall economic cost of fire, as potentially one of the most substantial costs, which can carry over into future generations.

These do not include people who migrate permanently out of the area, which would raise the number substantially.
A less investigated dynamic with business discontinuity and fires, is the impact of on unemployment of industrial structural fires.
Structural fires of industrial commercial enterprises have become more common in Victoria. The industrialised areas of the north west regions of Victoria have experienced an increased frequency and scale of fires. [22]

These enterprises and employees are also experiencing the economic impact of decline in the manufacturing economy. They also experience the high degree of unemployment of traditional industrial areas which have experienced longer term economic decline. The youth unemployment rates above 25% are common in low socio-economic industrial areas.[23]
In industrial and manufacturing structural industrial fires have a higher probability of being substituted by overseas manufactured goods. The economic impact, impacting on both the gross regional output and unemployment, should be fully investigated in the development of the cost of fire prevention cost benefits.

Under Insurance

One of the causes of businesses failure is the inadequacy (inability) of businesses to ensure fully for business interruption. Also, as noted, the lack of private insurance for the vicarious loss to associated businesses and suppliers.

CGU Insurance estimates that the average level of deficiency in value of Business Interruption coverage of 84%.

It is noted however that more insurance would not necessarily solve the economic problem. One the key costs to the economy from fire, is the cost of fire insurance.

Australian insurance premiums for fires and major disasters have been rising far above rates of economic growth. In itself, this should demand a national

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[22] See the Victorian Metropolitan Fire Board fire statistics.
[23] See Census data 2011
http://www.censusdata.abs.gov.au/census_services/getproduct/census/2011/quickstat/

investigation into more economically productive investments into direct fire prevention and suppression.

Moral Hazard – Ad hoc federal funding

As the Federal Government is funding increasing amounts in 'disaster relief and recovery' as well as social security provision to people to effected, a major moral hazard is fuelled.

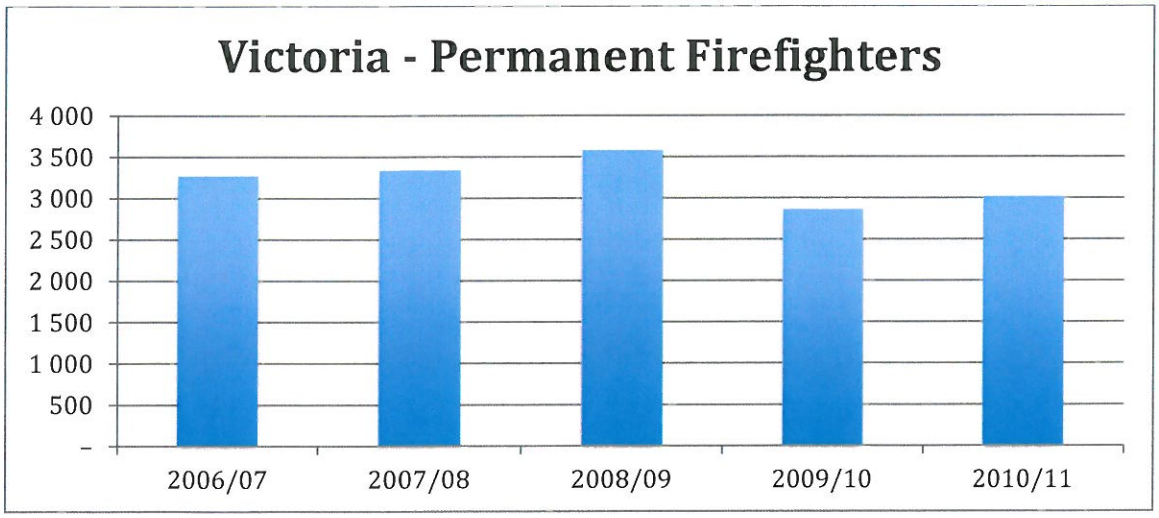
One of the negative consequences of the Federal Government's increased financial assistance to States and communities and effected by fires and disasters, is the moral hazard it creates in increasing incentives for States to reduce expenditure on fire suppression.

In economic theory, a moral hazard is a situation where a party will have a tendency to take risks because the costs that could incur will not be felt by the party taking the risk. In other words, it is a tendency to be more willing to take a risk, knowing that the potential costs or burdens of taking such risk will be borne, in whole or in part, by others.

The Victorian experience since the 2009 Black Saturday Bushfire has evidenced this 'moral hazard', by reducing its expenditure on fire services to pre- Black Saturday levels.

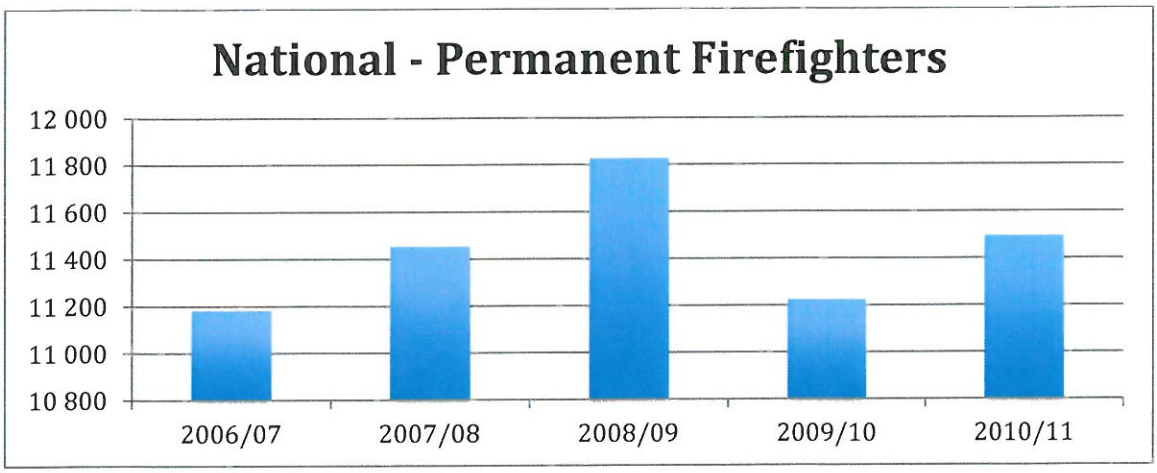
It is notable that the 2012 SCRGSP (Table 9A.25) shows that in 2010/11 the expenditure per person on fire services organizations has remained at 2006/7 nationally.[24]

One enlightening indicator of the above, is that Victoria has reduced its number of permanent fire fighters (as well as volunteer firefighters) to numbers below the Black Saturday Bushfires.



The total number of permanent firefighters nationally is above 2006/07 levels, but below2008/09 . The randomness of employment of firefighters, in contrast with increased losses from natural disasters over the period, indicates cause for further investigation.

[24] SCRGSP(Steering Committee for the Review of Government Service Provision), Report on Government Services 2012, Productivity Commission, Canberra. 2012 (Table 9A.25)



Moreover, permanent firefighters are expected to decline further, in particular in Victoria and NSW, due to 'budgetary pressures'. This appears to represent a clear example of moral hazard and an effort, to cost shift the expense of fires from the States Government.

The Victorian Government has taken the 'moral hazard' a step further and is increasing its cash surplus from fire levies revenue at an unprecedented rate, while decreasing expenditure.

Victoria's fire services' revenue increase & expenditure reduction

CFA revenues went up in 2011/12 by $106m because government put up the bill to Victorians on insured properties.

But the CFA & the Government are not spending the extra fire levy with – CFA making a cash surplus of $99.5 million – to contribute to a total cash surplus of $300m.[25]

Accruing surpluses of $100 million a year from fire services levies and $300 million in total without expending it is an obscene imposition on Victorians and the Victorian economy.

The cash surplus of $300 million is 10 times the historical surplus for the CFA (except for the previous year when the it also achieved a surplus of around$100m). It is also not justified, because the CFA is a general government entity that is not required to directly fund from its operating budget long term employee liabilities or capital expenditure (the main expenditure items entities make provisions for).

It should also be noted that the $300 million surplus represents only the CFA Corporate surplus. Many of the 1500 Brigades which belong to the CFA retain their own ABN's and bank accounts and accrue revenue directly from donations

[25] CFA Annual Report 2011/2012 ($300,194,000 cash surplus, $99,563,000 operating profit)

and commercial 'fire equipment maintenance services' that are not disclosed or incorporated in Corporate CFA financial reporting.

Anecdotally firefighters report that some of the major brigades have millions of dollars in revenue from commercial provision of services. There is no oversight or public accountability for the use of these funds.

In addition State Government also under-spent its budgeted commitments on fire services in 2010/11 by $60m, revenue from the Commonwealth Government for Natural Disaster preparedness. [26]

The Victorian Government has cut its total (MFB&CFA) insurance levy charge in 2012/13, from $641.9m to $580.5 million. [27] However the government has announced cuts in 2012/13 $64 million. Based on current expenditure this will still produce a similar surplus in 2012/13 of $100m or more.

These cuts are inexplicable in light of the massive surpluses being accrued by fire agencies.

It's a risk is that the government will continue to do what it is doing and use the fire levy as a cash cow – without spending it on improving the State's capacity to mitigate fire losses.

The Federal government has an obligation to address the moral hazard and increased cost arising from increased supplementation and cost shifting of cost of fire from State Governments.

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[26] Victorian Budget Papers 2012- 13 Budget Paper 3, Department of Justice

[27] http://www.insurancenews.com.au/local/victoria-abolishes-fire-services-levy-appoints-monitor

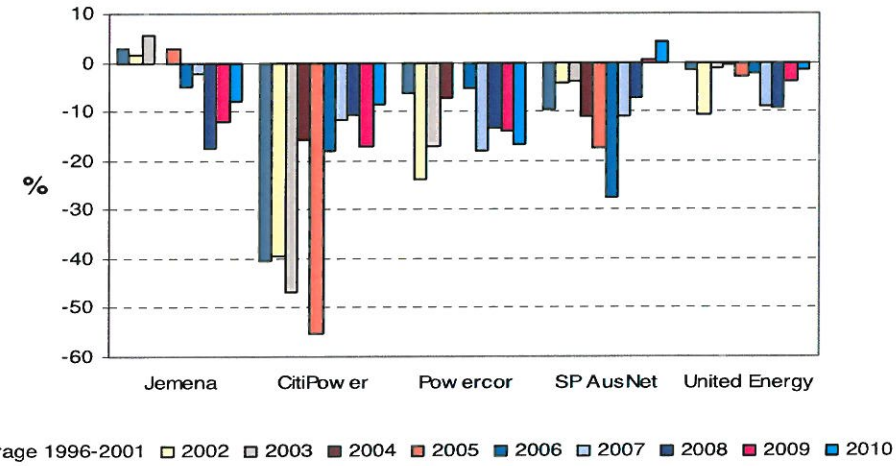
Moral Hazard – Electricity Distributors' public revenue supplementation

The other major area of moral hazard that is directly creating higher public expenditure on fires,is the State and Federal Government (AER) regulatory interventions to provide more revenue to electricity distributors – after they have found to contribute to major fires.

The outcome for private foreign owned electricity providers, like Powercor and SP Ausnet, is that they are financially rewarded for under-investing in asset maintenance. These companies reduced their annual or bi-annual ground inspection of distribution assets to 5 years, from an aerial view prior to the Black Saturday Bushfires.

Sp Auset and Powercor also under-invested in maintenance and capital assets over several years prior to the 2009, as depicted in Figrue 2.8.[28]

Figure 2.8 Operating and maintenance expenditure by DNSPs (difference from forecast



The figure shows that all of the DNSPs, except SP AusNet, spent less on operating and maintenance in 2010 than forecast. Yet it can be seen that the SP AusNet's 'above forecast' expenditure still pales with previous years under expenditure. The contribution of fire revenues announced by the Victorian Government may also be a contributor .

The average annual *forecast* expenditure on operations and maintenance for SP was approximately $115 million. The results in an annual average under-expenditure of approximately $20 million per annum prior to 2009.

To put the moral hazard into perspective, the following Figures 2.3 & 2.4 show that, notwithstanding continued under investment in asset maintenance and the

[28] AER, Victorian Electricity Distribution Network Service Providers Annual Performance Report 2010, May 2012 http://www.aer.gov.au/sites/default/files/Victorian%20electricity%20distribution%20businesses%20comparative%20performance%20report%202010.pdf

increase in the cost of fires to Victoria as a result, the electricity companies have been able to continue to earn returns above forecast. (forecast = the actual electricity price permitted by AER to cover costs).

Figure 2.3 **Powercor pre-tax return on distribution assets**

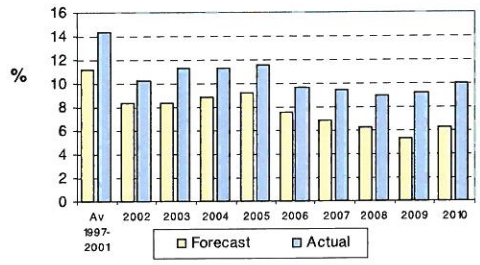
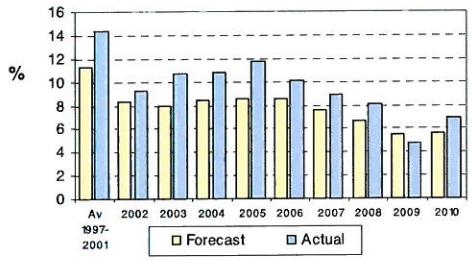


Figure 2.4 **SP AusNet pre-tax return on distribution assets**



This notwithstanding, the Victorian government has introduced a new additional 'fire levy' on rural Victorians to subsidize the improved maintenance and safety of the distribution assets.

In the 2012/13 State Budget the Government has given the power companies SP Ausnet & Powercor, (who the BFRC found their power line faults responsible for 5 of the 11 main fires on 7 February 2009) $62.5 million over three years of taxpayers money to progressively replace the most dangerous powerlines.

This $62 million is the first installment of up to $200 million over 10 years that was announced in December 2011 in response to the recommendations of the Powerline Bushfire Safety Taskforce and the Victorian Bushfire Royal Commission.

Under the same plan (announced on December 29 2011) the Government has permitted power companies to increase power prices across most of rural Victoria by $1.30 a year initially and peak at $13 extra a year.

The additional revenue will give electricity companies up to $500 million to improve the safety of assets on extreme-fire-risk days.

The State government stated it is seeking an additional $250 million in funding from the Commonwealth. Electricity companies Powercor and SP AusNet, which were on the Powerline Safety Taskforce, welcomed the state government's plan.

The implications of introducing new 'fire levies' payable by rural property owners, to the profits of foreign government owned enterprises must be investigated and addressed.

The dampening economic effect of increasing contributions of rural property owners, to contribute to the cost of an import (which is what the foreign owned electricity providers' services are) should be investigated.

This moral hazard is further exacerbated at a national level by the AER establishing a policy that where a major disaster such as a fire contributes to more than 1% of cost increases to a distributor – they can increase electricity prices to cover those costs.

The potential of these costs should be factored into an assessment of the cost benefit of improving fire prevention and suppression capabilities.

Fire Levy cost distribution – economic implications

The level of 'user pays' contribution to cost also varies widely across States. As discussed there has also been a major change by States over the past decade, to reduce the "insured value of property" basis of the contribution.

The Victorian Government for example has changed the fire service levy from an insurance based levy calculation to a 'property levy' calculated by the government of the day. As such, the new levy reflects the political preferences of the government of the day.

The Victorian property levy has been designed to take more revenue from people with lower incomes to subsidize very large property holders.

This is because, firstly, the mandatory Fixed Charge (ie. $100 per household) is relatively greater than the "asset value" proportion – that will form final levy. According to the Government Fact Sheets a household with a $395 value home will pay the same as a $595 value home.[29]

The property levy will be extended to uninsured properties for the first time in July 2013. Research shows that the vast majority of uninsured property owners are so because they have low incomes.

On average only 30% of properties are uninsured, so these will be new levies to 810,000 property owners in Victoria. [30]

The people hardest his will be low income earners, self funded retirees and pensioners, with low home asset value (insufficient capital value add to justify insurance) or that have relatively high asset values and low incomes.

The only discount available is $50 to aged pension card holders, not seniors card or other concession holders.

Pension Card holders only will get a $50 discount – on a minimum $100 levy. On the average levy of $145, so pension card holders will still have to pay $95 per year.

In addition to the almost a million predominantly low income property owners who will face a new charge, formerly exempt tenants will be liable to pay property owners levies. The legislation imposes "if a landlord does not pay the Levy, a tenant may be required to pay rent to the collection agency until the Levy has been paid." [31]

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[29] http://www.dtf.vic.gov.au/firelevy

[30] http://www.dse.vic.gov.au/__data/assets/pdf_file/0020/146252/Property-Victoria-Edition-31-October-2012.pdf 2.7 million private residential, industrial, commercial and rural properties

[31] See all above in http://www.allens.com.au/pubs/env/cuenv17oct12.htm re Fire Services Monitor Legislation.

The winners in the new fire levy calculations (to the extent that they have been disclosed) will be large property owners.

- Large landholders landholdings, such as those that cross local government area boundaries, will only have to pay the fixed charge once.

- Large single farming enterprises with multiple separate properties, can apply for exemptions so they only pay the fixed charge once – with zero fixed charge on the other properties.

Economics of Cost Distribution – regressive tax

The greater the proportion of fire services funding derived from property values, the 'fairer' the direct benefits. As importantly, the impost of the cost of fire services is also borne in the less economically detrimental manner, by favouring higher contributions from higher wealth households with higher discretionary incomes.

The recent trends by States, especially Victoria, to reduce fire service levies' link to (insured) property values, can result in a more regressive and unequal distribution of costs of fire services.

A regressive tax is a tax imposed in such a manner that the tax rate decreases as the amount subject to taxation increases. Regressive taxes bear down more heavily on lower income households than progressive ones, like income tax. Importantly, generally people on lower incomes tend to have a higher propensity to spend. They therefor have a greater economic stimulatory effect.

Any aggregate consideration of the 'cost of the fire' on the economy can only be meaningful with regard to how those costs are distributed.

The Federal Government, in inquiring into the cost of fire, need to give serious consideration to the distribution of those costs and their economic impact.

The Federal Government has a responsibility to ensure that fire services funding levels and the distribution of costs by States, have the least detrimental impact on the overall and fragile elements of the economy.

Measuring and minimising the 'cost of fire' – quality of inputs

The greatest impediment to ensuring quality, value adding, fire services through current methods is the Federal Government's reliance on 'output' rather than 'quality of input' measures.

The quality of services in other industries and sectors, such as heath services for example, are more easily measured referenced by recognized qualifications of the service provider.

Australia does not measure quality performance statistics for doctors and nurses. This is largely due to the high degree of complexity in measuring the 'quality of intervention', which like fires, are contingent on too many external factors.

Australia relies on parallel quality assurance systems of Registration Boards to ensure quality through alignment of appropriate qualifications and skills commensurate with professional duties.

The quality of the intervention is attempted to be represented by the Productivity Commissionby proxy through reporting of the "contained to one room" measures. However there are a wide variety of factors that the fire services cannot necessarily control ie when fire is reported. This measure does not take into account the skill or experience of the firefighters in deciding the strategy of suppression. It cannot therefor inform on the value, or otherwise, of the fire intervention.

In reality, skilled and experienced firefighters can identify when appropriate interventions are used to minimize fire (and fire and suppression related damage)

As such, the efficiency of collecting and reporting data that is effectively useless for measuring quality should be questioned.

A more robust quality assurance system, such as exist through registration boards, would give the Federal Government and the public greater assurance about the quality of fire suppression services.

In a practical sense, full incorporation of a system which defines skills and experience required to be, for example first in command at a fire, would act to improve the quality of fire suppression intervention and reduce the cost of losses.

The economic benefit of fuller progression to national standards and interoperability of fire and emergency services would be calculable. Evidence from the increasing use of interstate resources in the even of a disaster reinforces the quality and economic benefits that could be gained.

It is understood that there has been substantial practical progression towards inter-agency and national disaster management skills frameworks Australia wide.

Continued formalization of these 'input quality' frameworks at a national level would improve the Federal government's ability to measure investment into the actual skills that are paramount to minimize loss from fire.

The Federal Government should investigate the economic benefits of a national system of skills and qualifications supported by a registration board.

Other Fire Cost Escalation Factors

Insurance premium rises

The economic cost of fire related insurance needs to be accurately investigated to mitigate exponential rises in premiums.

In themselves insurance premiums form a substantial part of GDP. In the year to June 2012, nationally insurance premiums received by insurers for fire & ISR exceeded $3 billion. [32]

In 2012 the Insurance Council of Australia estimated that the total payouts from natural disasters reached $5 billion.

Insurance premiums have risen dramatically over the past several years, as insurance companies adjust premiums doe to higher claims, as well as changing actuarial assessment of the likelihood of disasters in coming years.

While there is nothing the government can do about disasters, it can support the development of emergency agencies which can reduce losses measurably and provide greater confidence in projections of overall losses.

This requires substantially greater use of empirical evidence to determine the quantum, quality allocation of fire protection and emergency services.

The benefits of this strategy are longer term, but given the rate of escalation of costs, the longer term economic impact of fire and disaster insurance could have (if it is not already) a crippling effect on the economy.

However analysis of the regulation of the insurance industry in itself needs to be included in strategies to improve the cost benefit of fire related expenditure.

Lesser quality Fire Services in 'Regional Areas'

It is the insurance industry which has identified the increased risk and cost of fire from the increased population density in formerly regional areas.[33]

State governments have continued to differentiate on the quality and cost of fire services in regional areas, notwithstanding the increase in mature structures and population density.

There is no apparent consistent basis, such as the ratio of qualified, accessible fire fighters per head of population, dictating the distribution of resources.

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32 http://www.apra.gov.au/GI/Publications/Documents/GI%20Supplementary%20Statistical%20Tables%202011-%2006.pdf on page 6 or in attached

33 KPMG, FINANCIAL SERVICES, General Insurance Industry Survey 2010

Monetary value of time donated by volunteer firefighters.

Australian research on the cost of contribution of volunteers is scant and not incorporated into economic analysis of the cost of fire.

International studies, as discussed, incorporate the monetary value of time donated by volunteer firefighters.

As the number of volunteer firefighters and the availability is reducing nationally, understanding the cost of volunteers will be necessary.

The historical myth that volunteer firefighters are 'free' has underpinned many fire service policy approaches that have not resulted in maximising fire losses.

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Moreover as 'free' as they are to the fire services, the reduction in availability, skills, equipment and experience – in such things as different forms of structural fires – they can end up costing more in property losses than they save.

Ageing Population

The ageing population is a contributing factor in both the cause of fires as well as loss of property and life from fires.

National policies which promote independent living at home for vulnerable people need to be cognisant f the increased risk factors to themselves and others from fires.

Ageing Electricity Assets

The major causes of fire in developed countries are increasingly related to the ageing of assets, such as electricity infrastructure, as systematic investment in replacement since the 1950's – 1970's has not occurred.

Extra attention needs to be paid to the adequacy of maintenance of privatized assets, as discussed, due to the singular profit motive of these entities.