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Lessons from the recent economic crisis:

The Australian Household Stimulus Package

Bruno Martorano

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THE AUSTRALIAN HOUSEHOLD STIMULUS PACKAGE: LESSONS FROM THE RECENT ECONOMIC CRISIS

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Abstract. As other countries, Australia was hit by the international crisis. While European countries implemented austerity measures worsening social conditions of their population and pushing the economy into a fallacious fiscal adjustment, the prompt reaction of the Australian government limited the possible negative effects caused by the macroeconomic shock and favoured the process of economic recovery. In particular, this paper provides an impact evaluation analysis at household and child level of the 2009 Household Stimulus Package which was composed by three main cash payments: the Back to School Bonus, the Single Income Family Bonus and the Tax Bonus for Working Australians. Using data from the 2008 and 2009 HILDA surveys, the results show that these cash payments reduced the risk of poverty and stimulated consumption expenditure. Nonetheless, only the Back to School Bonus and the Single Income Family Bonus were really important in achieving these goals, while the Tax Bonus for Working Australians did not contribute to stimulate consumption and failed to reduce the risk of poverty. Thus, the analysis confirms the crucial role of governments to protect the most vulnerable groups avoiding a dramatic deterioration of social outcomes and favouring a fast economic recovery when interventions are timely and well-targeted.

Keywords: economic crisis, stimulus package, poverty, consumption, impact evaluation

JEL classification: C14, D04, E62, H12, I30

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This paper uses unit record data from the Household, Income and Labour Dynamics in Australia (HILDA) Survey. The HILDA Project was initiated and is funded by the Australian Government Department of Families, Housing, Community Services and Indigenous Affairs (FaHCSIA) and is managed by the Melbourne Institute of Applied Economic and Social Research (Melbourne Institute). The findings and views reported in this paper, however, are those of the author and should not be attributed to either FaHCSIA or the Melbourne Institute.

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1. INTRODUCTION

As in other developed countries, the recent economic crisis affected the Australian economy.[1] Nonetheless, while the OECD countries recorded a drop of GDP near to 4 per cent in 2009, in Australia GDP grew by 1.4 per cent. Although Australia started from a better initial position in 2008, it is undeniable that an important contribution to its performance during the recent crisis came from the fiscal stimulus implemented by the government.

Indeed, the government's prompt reaction prevented the economy from falling into recession by favouring the introduction of the measures necessary to sustain the economic sector and to limit the risks of growing poverty and inequality. This paper focuses on a portion of the Australian fiscal stimulus and in particular on the 2009 Household Stimulus Package composed of three main cash payments: the Back to School Bonus, the Single Income Family Bonus and the Tax Bonus for Working Australians. While the first two were targeted to low-middle income families, the latter was targeted to high-middle income workers.

The aim of this paper is to investigate the effectiveness of these bonus payments in reducing poverty and stimulating consumption. In addition, our analysis gives special attention to these outcomes among children[2] and poor people, due to their increased vulnerability during times of crisis. To do this, we use a non-parametric technique to compare beneficiaries with a control group and a difference-in-difference estimator to measure the impact of cash payments on changes in poverty and consumption expenditure. The paper is structured as follows: section 2 describes the components of the Household Stimulus Package; section 3 reports evidence about its effect on different outcomes; section 4 presents the results of our study while section 5 concludes.

2. THE HOUSEHOLD STIMULUS PACKAGE

During the early stages of the recent economic crisis there was a revitalization of the Keynesian demand management approach. As a consequence, public spending increased in the majority of countries due to the introduction of fiscal stimulus packages (Martorano et al 2012). Their size was different across countries, in some cases exceeding 10 per cent of GDP such as in China (Figure 1).

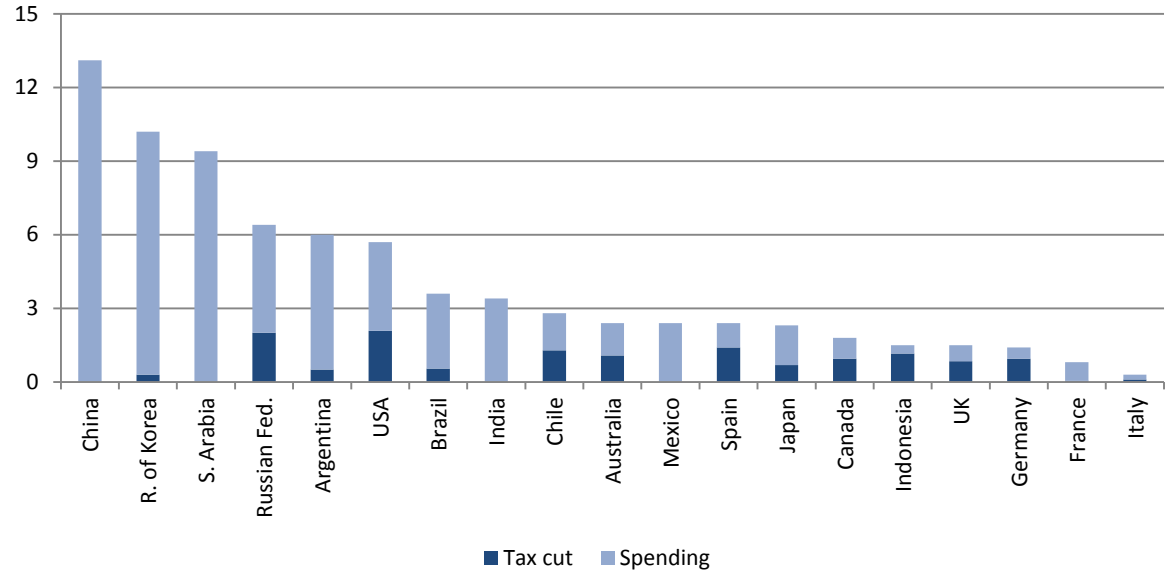
Generally, countries with enough fiscal space were more able to implement countercyclical policy in order to reduce the negative effect of the economic crisis. Indeed, the detractors of the introduction of a fiscal stimulus highlighted that "further increase in public debt may lead to a higher interest rate down the road, thereby increasing the burden of serving the future debt" (Aizenman and Jinjarak, 2010: 2). However, Australia started from a better fiscal situation than other developed countries due a positive fiscal balance (1.9 per cent of GDP over the period 2003 and 2007) and a low level of debt (9.7 per cent of GDP in 2007).[3]

Thus – excluding the Republic of Korea (about 10 per cent of GDP) and that of the United States (near 6 per cent of GDP) – the Australian government generated the largest fiscal efforts (2.4 per cent of GDP) among the advanced economies (Figure 1).[4] Its aim was "to strengthen the future

[1] In this paper, all monetary values are expressed in Australian dollars.
[2] Defined as under 18 years old.
[3] Data are from the World Economic Outlook (WEO) database October 2012.
[4] This fiscal policy was associated with a quick monetary policy response. In particular, the Central Bank reduced the interest rate from 7.25 per cent in August 2008 to 3.00 per cent in April 2009.

capacity of the economy, while at the same time providing immediate stimulus to the economy" (Commonwealth of Australia 2009: 9).

Figure 1. *Fiscal stimulus packages (per cent of GDP) as announced in selected economies, 2008–2010*[5]



Source: author's elaboration based on UNCTAD (2011)

In the majority of countries, public expenditure share represented the most important part of the packages (Figure 1). Barrett (2011: 3) reports that "approximately $14 billion in investment spending was outlaid over the course of calendar 2009, with effectively none of it in the first half of the year, $3 billion in the June quarter of 2009, and the remainder split between the September and December quarters… In addition to this, there were cash payments totalling $8.7 billion paid during the month of December 2008, and $12.2 billion in the June quarter of 2009."

In particular, cash payments were part of the Household Stimulus Package designed to support people and families in economic difficulties and to sustain their consumptions. This package consisted of several one-off payments delivered in two different periods.[6] In December 2008 the first tranche of transfers was paid, consisting of the bonus payment for families, pensioners, seniors, people with disability, carers and veterans. The bonus payment for families constituted a money transfer of $1000 per child in families entitled to receive Family Tax Benefit Part A (FTB-A).[7] The bonus payments for pensioners amounted to $1400 for singles and $2100 for couples while the payment for carers was a money transfer of $1000 to the person responsible for care of the disabled.

[5] It is necessary to highlight that "A detailed assessment of fiscal stimulus packages is not straightforward, because it is difficult to distinguish policy measures that were adopted in response to the crisis from others that were already planned or that would have been implemented in any case (e.g. public investments for reconstruction following natural disasters)" (UNCTAD, 2011: 42).
[6] It should be noted that these cash payments were not taxable and could be cumulative if families were eligible for different bonuses.
[7] "FTB-A eligibility depends on family income and the number of children, and ceases at around $100,000 for a one-child family, or at about $125,000 for a three-child family" (Leigh, 2012: 3).

Since the economic situation worsened in early 2009, the Australian government decided to implement a second package composed of three main one-off payments, paid between March and April 2009:[8]

- the Tax Bonus for Working Australians which represented the most expensive component involving a cost of $8.2 billion. This bonus was provided to eligible taxpayers and consisted of a lump-sum payment calculated on the taxable income: $250 for workers who paid taxes in the previous year and with a taxable income higher than $90,000 but lower than $100,000; $600 for taxpayers with an income between $80,000 and $90,000; $900 for eligible taxpayers with incomes equal to or lower than $80,000.

- the Back to School Bonus – with a cost of $2.6 billion – was a cash transfer of $950 per child targeted to low and middle income families with children aged 4-18 years old entitled to Family Tax Benefit Part A.

- the Single Income Family Bonus – with a cost of $1.4 billion - that was a cash transfer of $900 targeted to families entitled to receive Family Tax Benefit B (FTB-B).[9]

3. PREVIOUS ANALYSES

Due to their recent implementation, few analyses have investigated the economic and social impact of the fiscal stimulus. Makin (2010) argues that the main factor explaining the good performance of Australian economy during the recent crisis was the positive effect of the net foreign demand, while the contribution of the fiscal stimulus was not significant. In contrast, OECD (2009) highlights that the prompt reaction of the Australian Government was one of the most successful among the advanced economies in preventing the negative effect of the crisis. Barrett (2011) confirms that the fiscal stimulus was crucial to avoid economic recession. Indeed – excluding the estimated contribution of the fiscal stimulus from the output growth rate – he shows that: GDP would fall by 1.2 per cent rather than 0.9 per cent recorded in the last months of 2008, it would not change in contrast to an increase of 0.9 per cent in the first months of 2009 and GDP would decline by 1.4 per cent in contrast to a positive variation of 0.4 per cent in the June quarter of the same year.

Vu and Tanton (2010) analyse the distributional effects of the government stimulus package and in particular which families and areas benefited from it. The results show that about 66 per cent of families benefitted from the implementation of the 2009 Household Stimulus Package. Income increased especially for middle income families with dependent children. Considering the different components of the package, richer families gained more from the Tax Bonus for Working Australians while low or middle income families with children benefited more from the introduction of the Back to School Bonus. Concerning the spatial distribution of such measures, families living in areas just outside capital cities gained more than others from the monetary transfers.

[8] There were two others minor payments: the *Farmer's Hardship Bonus* and the *Training and Learning Bonus*.
[9] "FTB-B eligible families are single parents or couples where the primary earner has an income of less than about $150,000, and the secondary earner has an income below about $20,000 (both thresholds vary according to the number of children)" (Leigh, 2012: 3-4).

Using microdata, Wilkins and Warren (2012) present some monetary statistics referred to 2009 including and excluding cash payments. Assuming no changes in household behaviour, they show that the bonus payments increased the mean income by 4 per cent and the median income by about 5 per cent (Table 1). Moreover, low income gained more since "individuals at the 10th percentile of the distribution of equivalised income had their income increased by 11.1 per cent, whereas individuals at the 90th percentile had their income increase by 1.6 per cent" (Wilkins and Warren, 2012: 31). As a result, Gini decreased nearly 1 percentage point between 2008 and 2009 (Table 1).

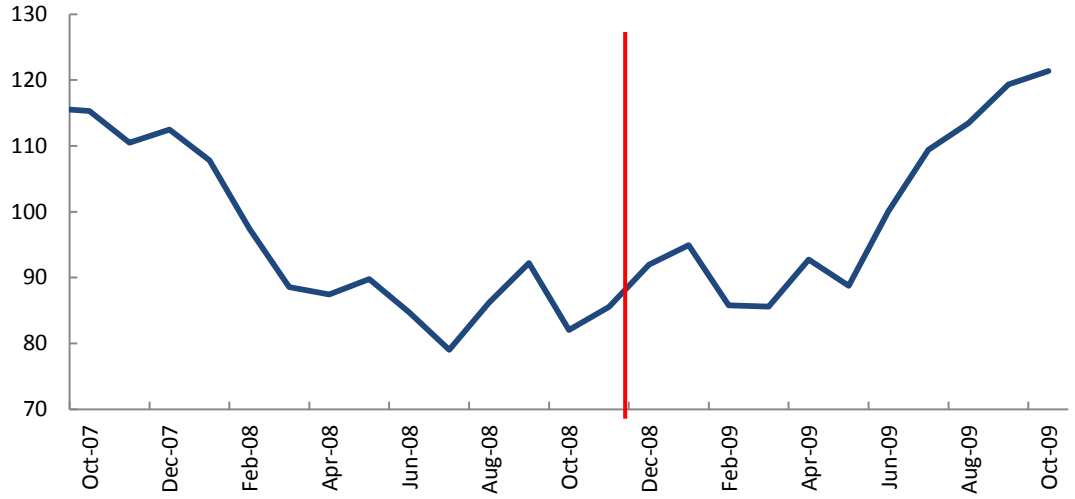
Table 1. *Effects of the 2008–2009 stimulus payments on several monetary statistics (expressed in thousands of $; December 2009 prices)*

		Mean	Median	10^{th} percentile	90^{th} percentile	Gini coefficient
Household Income	Income before stimulus payments	70.8	61.7	16.5	130.5	37.4
	Income after stimulus payments	73.3	64.5	18.0	133.0	36.7
	Difference	2.5	2.8	1.5	2.5	-0.7
Equivalized Income	Income before stimulus payments	41.9	37.5	16.0	71.5	31.3
	Income after stimulus payments	43.4	39.2	17.8	72.7	29.9
	Difference	1.5	1.7	1.8	1.2	-1.4

Source: author's elaboration on Wilkins and Warren (2012)

According to the Australian government, the stimulus package was expected to play a crucial role in supporting household consumption and preventing a more severe reduction of it (Commonwealth of Australia, 2009). Barrett (2011) confirms that cash payments stimulated consumptions in the first part of 2009 and especially in the second quarter of the year. One of the main explanations of this result is the fact that household beneficiaries were liquidity-constrained and characterized by a high propensity to consume. Indeed – after a drop in late 2007 – the consumer confidence index kept stable in 2008 and went up after the second tranche of transfers in 2009 (Figure 2).

Figure 2. *Consumer confidence index*



Source: Westpac-Melbourne Institute Survey of Consumer Sentiment

Finally, Leigh (2012) reports that more than 40 per cent of households benefiting from the public transfers spent the money received; about 35 per cent used transfers to pay off debts; and only 24 per cent saved the money (Table 2). Moreover, households that received a payment only in 2008 showed a spending rate higher than those who received the payment in 2009, while there were no significant differences in behaviour according to age or income level.

Table 2. *Use of money received from the household stimulus package*

Panel A: Detailed Categories	
Spent it [on things other than bills or other debts]	39.8
Used it to pay bills [utilities (phone, electricity etc), medical, other services]	30.2
Credit cards	1.5
Mortgage	2.9
Personal/short-term loans [e.g. car payment]	0.3
Saved it	18.7
Invested it	4.9
Don't know / Not sure	1.2
Refused	0.4
Total	100.0
Panel B: Collapsed Categories	
% Spent	**40.5**
% Saved	**24.0**
% Paid off debt	**35.5**

Source: Leigh (2012). Note: the question was: 'Thinking of the money you received from the household stimulus package, did you spend it, use it to pay bills, save it, or invest it?'

4. EMPIRICAL ANALYSIS

4.1 Data

The data used for the empirical analysis are from the 2008 and 2009 *Household Income and Living Dynamics in Australia* (HILDA) surveys that report information for a range of variables such as income, employment, household composition etc. Data referring to the Back to School Bonus, the Single Income Family Bonus and the Tax Bonus for Working Australians are from the 2009 HILDA survey.[10]

As noted in the introduction, one of the main goals of this paper is to evaluate the impact of these cash payments on poverty. In our analysis, a person/child is considered poor if his/her equivalent disposable income is lower than 50 per cent of the national median. The equivalent disposable income is equal to the market income less taxes and plus transfers divided by the equivalent household size.[11]

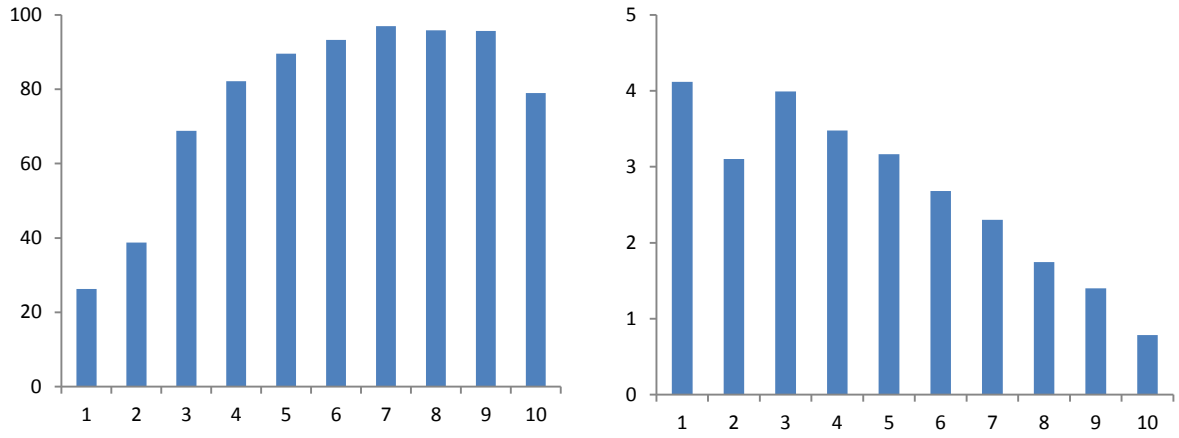
In addition, the aim of the Australian government was also to provide a stimulus to the economy by boosting household consumption. Thus, it is interesting to measure the impact of the stimulus package on consumption expenditure.[12] The HILDA surveys report information on several items such as: "groceries, alcohol; tobacco; taxis and public transport; child care; meals eaten out; motor fuel; men's clothing; women's clothing; children's clothing; telephone and internet services; holidays; education fees; health care; medicines; health insurance; other insurance; utilities; motor vehicle repairs and maintenance; home repairs and renovations; new cars; used cars; computers and related devices; home audio-visual equipment; household appliances; household furniture; rent on primary residence; and mortgage repayments" (Wilkins and Warren, 2012: 49). Although there is some missing information on items related to entertainment, recreation, sport etc, such data provide a good picture of the consumption expenditures as demonstrated by Wilkins and Sun (2010).

4.2. Progressivity and Redistributivity of the Cash Payments

Firstly, it is interesting to observe how the payments are distributed among the population. As shown in Figure 3, the percentage of beneficiaries was less than 30 per cent in the first decile while it was higher than 80 per cent between the 4th and 9th decile. It is also necessary to measure the incidence rate of these cash payments. Although the incidence of the total cash payments was progressive they represented less than 3 per cent of the individual income. As can be seen in Figure 3, the share increased to 4 per cent in the poorest decile but less than 1 per cent in the richest decile.

[10] It should be highlighted that "while respondents were asked to report whether they received each of these payments, the values reported in the HILDA data are derived for each enumerated person from calculations based on eligibility criteria and payment rates" (Wilkins and Warren, 2012: 32).
[11] The modified-OECD equivalent scale is used to take account of the different size and composition of households. "This equivalent scale gives a score of 1 to the household head. Each of the other household members aged 14 and more receives a score of 0.5, while each child with age less than 14 receives a score of 0.3" (Bradshaw et al, 2012: 4).
[12] As for income, we consider a definition of equivalent consumption expenditure.

Figure 3. *Decile coverage (left) and incidence (right) of the 2009 cash payments*



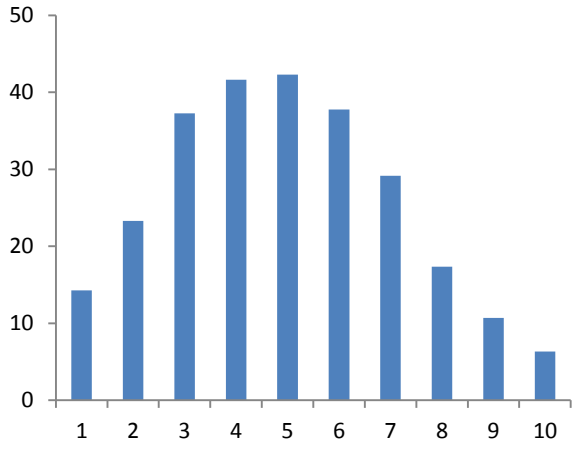
Source: author's elaboration

Figure 4 shows the decile coverage of the different components of the 2009 Household Stimulus Package. Middle income people benefitted more from the Back to School Bonus and the Single Income Family Bonus. In particular, the beneficiaries in the 4th and 5th decile were more than 40 per cent, and only 11 and 6 per cent respectively in the 9th and 10th deciles (Figure 4). Also, at the bottom of the distribution not many people benefited from these transfers. According to Vu and Tanton (2010; 137) "this may be due to the fact that many families in this low income quintile were single low income people, like age pensioners".

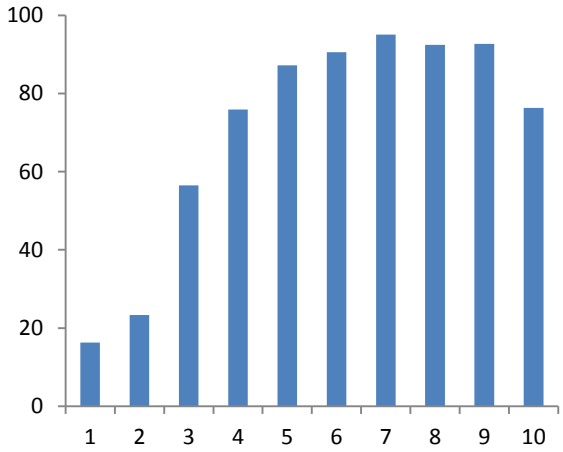
In contrast, the Tax Bonus for Working Australians was more targeted to persons in the mid or upper part of the distribution. Figure 4 shows that more than 90 per cent of individuals between the 6th and 9th deciles received this bonus while this percentage decreased to less than 25 per cent in the first two deciles.

Figure 4. *Decile coverage of the Single Income Family Bonus, the Back to School Bonus, the Tax Bonus for Working Australians*

Back to School Bonus + Single Income Family Bonus



Tax Bonus for Working Australians

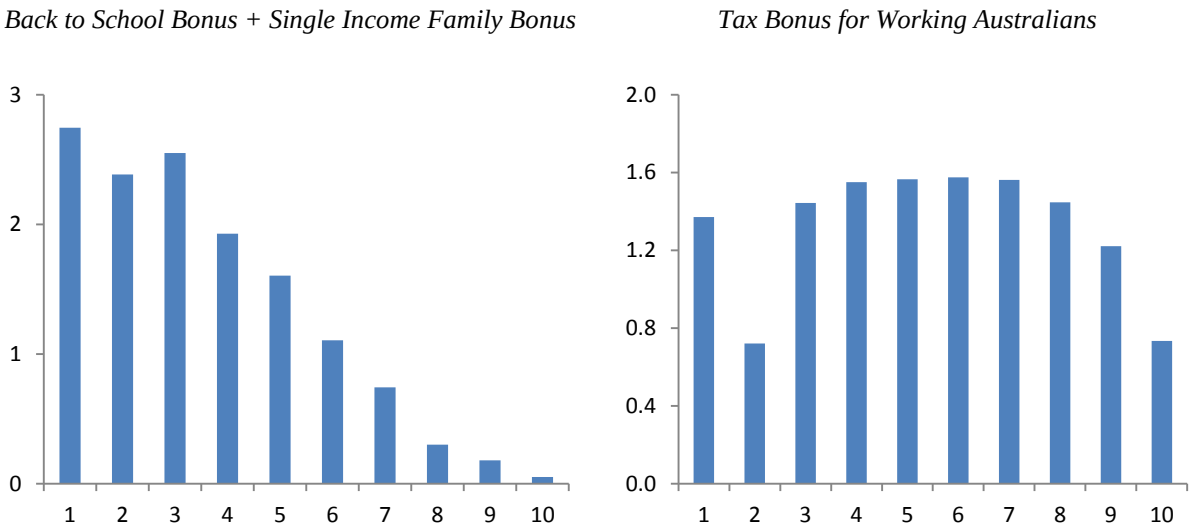


Source: author's elaboration

The incidence profile was also different looking at the various components of the 2009 Household Stimulus Package. Figure 5 shows that the incidence of the transfers was progressive in the case of the Back to School Bonus and the Single Income Family Bonus. In particular, the contribution of these payments increased especially at the bottom of the distribution. In contrast, these payments contributed marginally to the income at the top of the distribution and, in particular, less than one per cent in the case of the richest deciles. Conversely, the contribution of the Tax Bonus for Working Australians on disposable income was on average slightly more than one per cent and increased up to 1.5 per cent for beneficiaries around the mid-point of the distribution (Figure 5).

Thus, the different components showed different degrees of progressivity. While the Back to School Bonus and the Single Income Family Bonus were more progressive since the bottom part of the distribution benefitted more, the Tax Bonus for Working Australians was more targeted to families in the middle and top of the distribution.

Figure 5. *Incidence rate of the Single Income Family Bonus, the Back to School Bonus, the Tax Bonus for Working Australians*



Source: author's elaboration

Assuming no changes in household behaviour, we can consider different scenarios with and without the Household Stimulus Package payments in order to measure their redistibutivity. Table 3 shows that the household payments generated a positive effect in terms of poverty and inequality reduction. In particular, these cash payments reduced poverty by about 1 point and Gini coefficient of about 0.5. The most important contribution came from the Back to School Bonus and the Single Income Family Bonus which favoured a reduction in poverty of about 1 point and Gini coefficient of 0.4 points. In contrast, the contribution of the Tax Bonus for Working Australians was marginal in terms of poverty and inequality reduction. The poverty rate decreased by 0.3 points while child poverty and Gini coefficients drop only by 0.1 point.

Table 3. Impact of the household stimulus package on poverty rate and Gini coefficient

	Poverty rate	Gini index
Disposable income	**13.8**	**30.7**
no bonus	15.0	31.2
no Back to School Bonus + no Single Income Family Bonus	14.8	31.1
no Tax Bonus for Working Australians	14.1	30.8

Source: author's elaboration

4.3 The Impact of Cash Payments on Changes in Poverty, Consumption Expenditure and Labour Supply

Despite the improvements illustrated in Table 3, we are not able to say if these changes are strictly related to the cash payments. The problem is that we could not observe the counterfactual situation in order to measure the real impact of the 2009 Household Stimulus Package on poverty and other outcomes.

For this purpose, we can try to reproduce an ideal context using a non-experimental technique. In particular, we split "quasi-identical" persons into two groups – treatment and control group – implementing a matching estimation technique. To do this, as a first step it is necessary to measure the propensity score[13] given a set of characteristics referred to the person or his household and considered relevant in order to benefit from the cash payments.[14] They are: the work intensity index to measure the workforce participation of the household members;[15] a dummy variable to define the type of household (couple, lone parent and other families); the number of children in the household; a dummy variable indicating the income decile in order to proxy the individual economic situation; a dummy variable to account for the difference between a person living in remote areas and others. All these variables are referred to the previous period in order to reproduce the initial conditions. Satisfying the two hypotheses of *Balancing* and *Unconfoundedness,*[16] observations in the treatment group are matched with those in the control group who present the closest propensity score using the 'caliper' estimator.[17] Finally, we use a difference-in-differences technique to measure the impact of the bonus payments on several outcomes.[18]

4.3.1. Impact of the cash payments on consumption expenditures

There is no general consensus about the role of fiscal policy and in particular the effectiveness of stimulus packages in periods of economic crisis. For example, the neoclassical theory highlights the

[13] The propensity score is measured using a probit model.
[14] The household information proxies the family characteristics. This information is crucial in our analysis because two cash payments are specifically targeted to families.
[15] For this purpose, we consider an index of household work intensity that ranges between 0 and 1 meaning respectively that all the household components of working age are not working or are all working in the period considered.
[16] According to the *Balancing Hypothesis,* the treatment effect has to be estimated using households with the same characteristics – observable as well as non-observable – independent of the perceptions of cash payments; according to the *Unconfoundedness Hypothesis,* it is necessary that the non-observable characteristics are not influential in perception of them and in the final outcomes (Becker and Ichino, 2002).
[17] In particular, we employed the 0.001 caliper. Moreover, we also used other estimators to check the validity of our results.
[18] For this purpose, we used the PSMATCH2 software, while PSTEST software was used to verify our results (Leuven and Sianesi, 2003).

shortcomings of the demand management approach reporting different explanations related to the economic agents' consumption/saving behaviuor, the public debt level and the credibility of government measures. Within a Barro-Ricardian framework (Barro, 1974), the present effects of a fiscal stimulus are related to future expectations of the consumers. In particular, "the economic agents anticipate the increase of the future taxes in order to cover the budget deficits generated by the public spending, and, on a long-term, the government only replaces the private spending with the public spending" (Marinas, 2010: 64). Moreover, neoclassical economists consider fiscal policy instruments not adequate to face the challenges of an economic recession because they are constrained by timing and sometimes political problems (Taylor, 2000). In contrast, automatic stabilizers are considered more effective to smooth the business cycle while deficit reducing and monetary policies are crucial to promote economic growth.

Nonetheless, not all economists agree with these considerations. In particular, Keynesian theory emphasizes the capacity of expansive policies to stimulate consumption and to boost output due to the presence of price rigidities and slack in productive capacity. Supposing the greater relevance of the short term horizon in the agent's economic choices (Afonso et al 2010), increasing government expenditure or cutting taxes generate positive effects on current income and consequently on consumption (Galì et al 2007, Eggertsson and Krugman, 2012).[19] Furthermore, it is arguable that the effectiveness of fiscal policy rises during economic downturns: indeed, consumers will be more inclined to consume the additional income rather than to save it because they are facing several budget constraints.[20] Lastly, Keynesian policies are also considered more effective in a context like the recent crisis because monetary policy was constrained by nominal interest rates which were near zero (Romer, 2011).[21]

(i) Results. These considerations are partially confirmed by our analysis. Table 4 shows that the 2009 Bonus Payments generated a stimulating effect on consumption expenditure for the treatment group considering low income families with children. Indeed, only in this case the result is statistically significant even though the difference between treatment and control group is always positive.

The same result is confirmed analysing the Back to School Bonus and the Single Income Family Bonus. As can be seen in Table 4, these bonuses generated a stimulus effect on consumption expenditure considering low income families with children. In contrast, the Tax Bonus for Working Australians failed to stimulate consumption expenditure. The explanation could be related to the nature of this transfer. First, the vast majority of beneficiaries were workers in the mid and upper part of the distribution with a smaller propensity to spend the rebate. Secondly, the contribution of this transfer to income was smaller in all deciles.

[19] There is however no consensus as to whether tax cuts or spending increases are more effective in stimulating the economy. As reported by Batini et al (2012), public spending multiplier is larger than taxation multiplier during an economic downturn. Shapiro and Slemrod (2001) point out that tax rebates have little impact on consumption and they are unable to stimulate aggregate demand. In contrast, Elmendorf and Furman (2008) report that more than half of the amount of the tax rebates is spent. According to Coenen et al (2012), cash transfers are considered the most effective tool to boost consumption. In particular, they have success in stimulating private consumption if transfers are targeted to low-income and credit-constrained consumers who present the highest propensity to consume (Spilimbergo et al, 2008).

[20] The results were also confirmed by the recent empirical literature. Indeed, several authors point out that the fiscal stimulus packages implemented in the recent economic crisis were useful to sustain domestic demand showing multipliers higher than one (see Auerbach and Gorodnichenko, 2012; Baum et al, 2012; Blanchard, 2009; Tagkalakis, 2008).

[21] According to Blanchard and Leigh (2013), this is not the case of Australia because the interest rate is higher than 1 per cent.

All in all, we can conclude that the 2009 Bonus Payments were partially successful in stimulating consumption. Transfers targeted to low income families were more effective in stimulating consumption than tax rebates because they were targeted to beneficiaries with a higher propensity to consume and who were facing a series of budget constraints.

Table 4. *Impact of the 2009 cash payments on consumption expenditure change between 2008 and 2009*

		T	C	DID
All 2009 Bonus Payments	*All deciles*	+.0888	+.0407	+.0481
	Poor families with children	+.2463	-.0947	+.3410***
Back to School Bonus and the Single Income Family Bonus	*All deciles*	+.0532	+.1008	-.0476
	Poor families with children	+.2236	-.1550	+.3784***
Tax Bonus for Working Australians	*All deciles*	+.0898	+.0597	+.0300
	Poor families with children	+.2630	+.0362	+.2268

Source: author's elaboration. **Notes:** DID defines difference between groups; C defines control group; T defines treatment groups. *, **, *** significant at 10, 5 and 1 per cent. 'Poor families' refers to those in the 1st, 2nd and 3rd deciles.

4.3.2. Impact of the cash payments on changes in poverty

The previous discussion focused almost exclusively on the change in private consumption without considering the income distribution impact of the fiscal stimulus. Generally speaking, economic crises affect income distribution through different channels, such as the increase in unemployment, the functioning of the welfare system, but also in relation to government reactions (Cornia and Martorano, 2012). For example, household incomes are affected by the work of automatic stabilizers that are strictly related to a country's fiscal structure. Even without discretionary interventions, they respond counter-cyclically to the business cycle as a natural reaction of the fiscal machine. Indeed, public expenditure rises automatically during the economic downturn due to – for example – the rising number of people or households that receive unemployment or social benefits.

The empirical literature gives some indications of the impact of automatic stabilizers on the income distribution. Using data for the United States, Heathcote et al (2010) show that poor families were the most affected during the past economic downturns. Nevertheless, inequality of the distribution of disposable income rose less than earning inequality thanks to the effects of different instruments of social protection. Similar results were reported by Aaberge et al (1997). Studying the effects of economic recession in Scandinavian countries in the early 1990s, they show that the presence of a well-functioning welfare system mitigated the negative distributional consequence of the economic recession.

Nonetheless – as reported above – automatic stabilizers are strictly connected to the existing social protection system and so they differ across countries. Thus, Dolls et al (2010: 3) show how "in case of the unemployment shock, some Eastern and Southern European countries provide little income stabilization for low income groups whereas the opposite is true for the majority of Nordic and continental European countries". In other words, the ability of automatic stabilizers to affect income distribution is limited in economies characterized by a small or truncated welfare system.

For example, unemployment benefits are often absent in low-income countries, while they represent a small share of public expenditure in many middle- or high-income countries. Moreover, social protection systems do not assure the same protection to all workers, especially in the presence of a segmented labour market. Indeed, "the extent of unemployment risks and the 'quality' of social protection provided to different socio-economic groups do not coincide, and in general, those most affected are the least protected" (Dolls et al, 2012: 16).

Thus lack of similar automatic stabilizers exacerbates the necessity of introducing discretionary policies in order to reduce the negative consequences of macroeconomic shocks on poverty and inequality. Obviously policy tools present different degrees of progressivity and redistributivity. For example, a cut in personal income taxes provides more benefits to the middle and top income households, worsening income distribution. In contrast, cash payments targeted to low-income households could be useful not only for boosting consumption but also in promoting equity.

(i) Results. These considerations are confirmed by the results of our analysis (Table 5). The 2009 Bonus Payments were useful to reduce the risk of poverty. While poverty kept stable for the treatment group, the poverty rate increased for the control group. Considering poor families with children, the poverty rate decreased in the treatment group while it increased in the control group (Table5).

It is also possible to observe that the Back to School Bonus and the Single Income Family Bonus were the most important components contributing to the reduction of poverty risk (Table 5). Although the difference between treatment and control group is statistically significant in both groups, these bonuses generated a stronger effect on the bottom of the distribution. In contrast, the Tax Bonus for Working Australians did not have an effect on poverty changes (Table 5). In almost all cases, the treatment group recorded better results than the control group. However, the differences were not statistically significant.

All in all, the 2009 Bonus Payments were able to protect people from the risk of poverty. Moreover, we can conclude that the Back to School Bonus and the Single Income Family Bonus performed better than other components in achieving their goals. As explained before, the reasons are related to the fact that they were better targeted to low and middle income families with children. In addition, the incidence on the budget of household beneficiaries was significant, increasing their possibility to move out of poverty conditions.

Table 5. *Impact of the 2009 cash payments on poverty change between 2008 and 2009*

		T	**C**	**DID**
All 2009 Bonus Payments	*All deciles*	+.0086	+.2620	-.2535***
	Poor families with children	-.1371	+.1734	-.3105*
Back to School Bonus and the Single Income Family Bonus	*All deciles*	-.0241	+.1104	-.1345***
	Poor families with children	-.1667	+.1405	-.3072**
Tax Bonus for Working Australians	*All deciles*	+.0230	+.1677	-.1447
	Poor families with children	-.0531	+.1642	-.2174

Source: author's elaboration. **Notes:** DID defines difference between groups; C defines control group; T defines treatment groups. *, **, *** significant at 10, 5 and 1 per cent. 'Poor families' refers to those in the 1st, 2nd and 3rd deciles.

5. CONCLUSION

During the recent economic crisis, the Australian experience provides good lessons for other developed countries. While European countries implemented austerity measures, worsening the social conditions of their populations and pushing the economy to a fallacious fiscal adjustment (Martorano et al 2012), the fiscal stimulus implemented by the Australian government limited the possible negative effects of a global recession and favoured the process of economic recovery.

This paper provides an impact evaluation of the 2009 Household Stimulus Package which was composed of three main cash payments: the Back to School Bonus, the Single Income Family Bonus and the Tax Bonus for Working Australians. Using data from the 2008 and 2009 HILDA survey, our analysis shows that the 2009 Bonus Payments reduced the risk of poverty and stimulated consumption especially for low-middle income families with children. Considering the different components of the 2009 Household Stimulus Package, we can observe that the Back to School Bonus and the Single Income Family Bonus were the most effective tools to boost the economy and protect the most vulnerable groups, while the Tax Bonus for Working Australians failed to achieve both these objectives.

Starting from these results, we can extract useful policy implications. Firstly, the Australian case shows that in a time of crisis a prompt government reaction is crucial to avoid a dramatic deterioration of social outcomes and to favour a fast economic recovery. To make this possible, it is necessary to maintain a sound macroeconomic condition during normal times to be able to react effectively during bad times (e.g. enough fiscal space). For example, Australia started from a better initial condition than other developed countries. As a result, the fiscal stimulus did not produce major fiscal problems. Although it generated an increase of the fiscal deficit, the level of debt remained below 30 per cent of GDP. Moreover, the interest payments expenditure rose slightly from 0.6 in 2007 to 1.1 in 2012 in spite of the increase in the level of indebtedness (IMF, 2012).

Secondly, the analysis shows that fiscal policy was a useful tool to face the negative consequences of macroeconomic shocks, especially in a situation such as that experienced by advanced economies in the recent crisis. At the same time, not all the instruments show the same efficacy in achieving their goals, as illustrated by the analysis of the different components of the Australian Household Stimulus Package. Although the Tax Bonus for Working Australians was the most expensive component of the 2009 Household Stimulus Package, only the cash payments targeted to low income families made it possible to achieve contemporaneously the results of protecting the poor and boosting the economy. The reason was that they were better targeted to low income families with a higher propensity to consume.

Finally, there are several open questions that could be objects of future research. For example, it could be interesting to understand how important are government reactions in terms of quantity and timing by analyzing other case studies. Moreover, it could be useful to extend our analysis to investigate the results achieved by other countries that adopted different strategies (e.g. cutting taxes). All information of this kind could be crucial for policy makers to make better decisions in the future.

REFERENCES

Aaberge, R., Björklund, A., Jäntti, M., Pedersen, P. J., Smith, N. and Wennemo, T. (1997). "Unemployment Shocks and Income Distribution: How Did the Nordic Countries Fare During their Crises?", *Discussion Papers 201*, Research Department of Statistics Norway.

Afonso, A., Grüner, H. P. and Kolerus, C. (2010). "Fiscal Policy and Growth: Do Financial Crises make a Difference?", *Working Papers 2010/10*, Department of Economics at the School of Economics and Management (ISEG), Technical University of Lisbon.

Aizenman, J. and Jinjarak, Y. (2010). "The Role of Fiscal Policy in Response to the Financial Crisis", background paper prepared for the UNDESA(2011), World Economic Situation and Prospects 2011, United Nations' Development Policy and Analysis Division.

Auerbach, A. and Gorodnichenko, Y. (2012). "Fiscal Multipliers in Recession and Expansion," in *Fiscal Policy after the Financial Crisis*, edited by Alberto Alesina and Francesco Giavazzi, Chicago: University of Chicago Press.

Batini, N., Callegari, G. and Melina, G. (2012). "Successful Austerity in the United States, Europe and Japan," *IMF Working Paper No. 12/190*, International Monetary Fund.

Baum, A., Poplawski - Ribeiro, M. and Weber, A. (2012). "Fiscal Multipliers and the State of the Economy," *IMF Working Paper No. 12/286*, International Monetary Fund.

Barrett, C. (2011). "Australia and the Great Recession: Policy Responses and Implications", Woodrow Wilson International Center for Scholars, Washington DC.

Barro, R. J. (1974). "Are Government Bonds Net Wealth?", *Journal of Political Economy,* 82 (6), 1095-1117.

Becker, S. and Ichino, A. (2002). "Estimation of average treatment effects based on propensity scores", *The Stata Journal*, http://www.labor-torino.it/pdf doc/ichino.pdf

Blanchard, O. J. and Leigh, D. (2013). "Growth Forecast Errors and Fiscal Multipliers", *IMF Working Papers 13/1*, International Monetary Fund.

Blanchard, O. J. (2009). "The Crisis: Basic Mechanisms and Appropriate Policies", *IMF Working Papers 09/80*, International Monetary Fund.

Bradshaw, J., Chzhen, Y., de Neubourg, C., Main G., Martorano, B. and Menchini, L. (2012). "Relative Income Poverty among Children in Rich Countries", *Innocenti Working Paper 01-2012*, UNICEF Innocenti Research Centre, Florence.

Coenen, G., Erceg, C., Freedman, C., Furceri, D., Kumhof, M., Lalonde, R., Laxton, D., Lindé, J., Mourougane, A., Muir, D., Mursula, S., Roberts, J., Roeger, W., de Resende, C., Snudden, S., Trabandt, M. and in't Veld, J. (2012). "Effects of Fiscal Stimulus in Structural Models," *American Economic Journal: Macroeconomics*, 4 (1), pp. 22–68.

Commonwealth of Australia (2009). Updated Economic and Fiscal Outlook, available at: http://www.budget.gov.au/2008-09/content/uefo/html/prelims.htm

Cornia, G. A. and Martorano, B. (2012). "Development Policies and Income Inequality: Main trends in selected developing regions, 1980-2010", *UNCTAD Discussion Paper no. 210*.

Dolls, M., Fuest, C. and Peichl, A. (2010). "Automatic Stabilizers, Economic Crisis and Income Distribution in Europe", *IZA Discussion Paper No. 4917*, Institute for the Study of Labor (IZA).

Dolls, M., Fuest, C. and Peichl, A. (2012). "Automatic Stabilization and Discretionary Fiscal Policy in the Financial Crisis", *IZA Journal of Labor Policy* 2012, 1:4.

Elmendorf, D. and Furman, J. (2008). "If, When, How: A Primer on Fiscal Stimulus," The Hamilton Project, *Strategy Paper*, The Brookings Institution.

Eggertsson, G. B. and Krugman, P. (2012). "Debt, Deleveraging, and the Liquidity Trap: A Fisher-Minsky-Koo Approach," *Quarterly Journal of Economics*, 127 (3), pp. 1469–513.

Galí, J., Lopez-Salido J. and Valles, J. (2007). "Understanding the Effects of Government Spending on Consumption", *Journal of the European Economic Association*, 5 (1), pp. 227-70.

Heathcote, J., Perri, F. and Violante, G. L. (2010). "Unequal We Stand: An Empirical Analysis of Economic Inequality in the United States: 1967-2006", *Review of Economic Dynamics, Elsevier for the Society for Economic Dynamics*, 13 (1), 15-51.

Leigh, A. (2012). "How Much Did the 2009 Australian Fiscal Stimulus Boost Demand? Evidence from Household-Reported Spending Effects", *The B.E. Journal of Macroeconomics*, 12 (1) (Contributions), Article 4.

Leuven, E. and Sianesi, B. (2003). "\PSMATCH2: Stata Module to Perform Full Mahalanobis and Propensity Score Matching, Common Support Graphing, and Covariate Imbalance Testing," Software, http://ideas.repec.org/c/boc/bocode/s432001.html.

Marinas, M. C. (2010). "The Effectiveness of Fiscal Policy in Combating Economic Crisis. An Analysis Based on the Economic Literature", *Theoretical and Applied Economics* Volume XVII, 11(552), pp. 63-78.

Martorano, B., Cornia, G. A. and Stewart, F. (2012). "Human Development and Fiscal Policy: Comparing the Crises of 1982-85 and 2008-11", *Working Papers Series no. 23/2012*, Universita' degli Studi di Firenze, Dipartimento di Scienze Economiche. http://www.dse.unifi.it/upload/sub/WP23_2012.pdf

OECD (2009). *Interim Economic Outlook*, Chapter 3: The Effectiveness and Scope of Fiscal Stimulus, OECD, Paris.

Romer, D. (2011). "What Have We Learned About Fiscal Policy from the Crisis?" IMF Conference on Macro and Growth Policies in the Wake of the Crisis, March 2011, IMF Washington DC.

Shapiro, M. D. and Slemrod, J. (2001). "Consumers Response to Tax Rebates", *NBER, Working Paper 8672*.

Spilimbergo, A., Symansky, S., Blanchard, O. and Cottarelli, C. (2008). "Fiscal Policy for the Crisis", IMF Staff Position Note SPN/08/01.

Tagkalakis, A. (2008). "The Effects of Fiscal Policy on Consumption in Recessions and Expansions", *Journal of Public Economics*, 92 (5-6), 1486-1508.

Taylor, J. B. (2000). "Reassessing Discretionary Fiscal Policy", *Journal of Economic Perspectives*, Vol. 14, No. 3, Summer.

UNCTAD (2011). Trade and Development Report: Post-crisis Policy Challenges in the World Economy, UNCTAD, Geneva.

Vu, Q. N. and Tanton, R. (2010). "The Distributional and Regional Impact of the Australian Government's Household Stimulus Package", *Australasian Journal of Regional Studies*, 15 (1), 127 – 145.

Wilkins, R. and Sun, C. (2010), "Assessing the Quality of the Expenditure Data Collected in the Self-Completion Questionnaire", *HILDA Discussion Paper No. 1/10*, Melbourne Institute of Applied Economic and Social Research, University of Melbourne.

Wilkins, R. and Warren, D. (2012). Families, Incomes and Jobs, Volume 7: A Statistical Report on Waves 1 to 9 of the Household, Income and Labour Dynamics in Australia Survey, Melbourne Institute of Applied Economic and Social Research, the University of Melbourne.

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