

## **Designing a universal income support mechanism for Italy. An exploratory tour\***

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### **Abstract**

Differently from most European countries and despite the recommendations on the part of the European Commission, Italy still misses a sufficiently systematic and nationwide mechanism of income support. In this paper we explore the feasibility, the desirability and the features of a universal policy of minimum income in Italy. We use a microeconomic model and a social welfare methodology in order to evaluate various alternative mechanisms. We simulate the effects and the social welfare performance of 15 reforms resulting from three versions of five basic types of universal income support mechanism: Guaranteed Minimum Income (GMI), Unconditional Basic Income (UBI), Wage Subsidy (WS) and two mixed systems: GMI+WS and UBI+WS. As a welfare evaluation criterion we adopt the Gini Social Welfare function. The simulation exercise has two distinctive features that are not common in the tax-reforms literature: first, all the reforms are calibrated so as to preserve fiscal neutrality; second, we adopt a method that allows for market equilibrium and ensures a consistent comparative statics interpretation of the results. In the most scenarios, the social-welfare-optimal policies are an unconditional transfer combined with a wage subsidy (a total benefit amounting to about 75% of the poverty level). In this exercise the reforms can be financed by proportionally increasing the current marginal tax rates and widening the tax base to include all personal incomes, with top marginal rates close to the ones currently applied in some Scandinavian countries. The set of universalistic policies that are preferable to the current system is however very large and appears to give the opportunity of selecting a best reform according to many different criteria or constraints.

**Keywords:** Income Support Mechanisms, Basic Income, Guaranteed Minimum Income, Wage Subsidies, Tax Reform Simulation.

**JEL Classification:** H31, H21, C25.

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## 1. Introduction

Differently from most European countries and despite the recommendations on the part of the EC, Italy still misses a sufficiently systematic and nationwide mechanism of income support, although various selective or conditional income maintenance policies are operating and some local authorities are experimenting forms of minimum income policy.<sup>1</sup> A serious attempt to rationalize the income support policies in Italy took place in the second half of the 90s. In 1997 a governmental commission recommended the introduction of a universal minimum income mechanism both to contrast poverty and to favour the mobility of labour between firms and across occupations, as a crucial element for a new general design of the Italian welfare state (Onofri (Ed.) 1997). In 1998 a limited form of minimum income transfer – *Reddito Minimo di Inserimento* (RMI) – was introduced in a number of municipalities in order to test its organizational feasibility. However in 2001 the RMI “experiment” was stopped. Meanwhile a partial constitutional reform had transferred the responsibility for social assistance from the central government to the regional authorities (“Regioni”). This process, together with the unfavourable macroeconomic international scenario and a very high public debt, discouraged during the following decade further attempts to consider minimum income policies as a universal and nation-wide institution. Recently, however, the economic crisis itself has put much stress on the current income support policies, thus revealing their shortcomings with respect to both efficiency and equity. The evidence about the undesirable implications of the current policies is

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<sup>1</sup> While we are writing, in the EU countries only Greece, Hungary and Italy do not implement a nation-wide minimum income policy. Since 1992 the European Commission has issued many declarations and recommendations where minimum income policies emerge as a key instrument for enforcing fundamental human rights, reducing poverty and promoting social inclusion. A useful survey of minimum income policies in Europe is provided by Busilacchi (2008). A detailed institutional analysis for Italy is found in Sacchi (2005).

producing a more favourable climate for debating about the redesign of the income support mechanisms.

In this paper we empirically explore the feasibility and the “optimal” features of a universal policy of income support in Italy. So far this is the first systematic and empirical analysis of a wide range of reforms of the Italian income support policies, although many contributions that address specific reforms have recently appeared.<sup>2</sup> The perspective of our analysis is provided by optimal taxation theory, i.e. we aim at designing an income support mechanism that replaces the actual policies and – taking into account the households’ optimizing choices – maximizes a given social welfare function subject to a public budget constraint. However, instead of looking for an analytical solution we adopt a computational-empirical approach.<sup>3</sup> Namely, we use a microeconomic model and a social welfare methodology in order to explore and evaluate various alternatives mechanisms. Section 2 describes the current system of income support in Italy and the simulated alternative reforms. Section 3 explains the simulation methodology. The results are presented in Section 4, which also contains the concluding remarks.

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<sup>2</sup> Among the most recent ones: Aaberge et al. (2004), Fumagalli (2006), De Vincenti and Paladini (2009), Colombino et al. (2010), Figari (2011), De Luca et al. (2012).

<sup>3</sup> A similar approach is adopted by Aaberge and Colombino (2011, 2012) and by Blundell and Shephard (2012).

## **2. The current system and the reforms**

Current Italian income support policies can be classified as contingent interventions and structural (or anti-poverty) interventions. The contingent interventions (*Indennità di Disoccupazione* (ID), *Cassa Integrazione Guadagni* (CIG), *Indennità di Mobilità* (IM), *Contratti di Solidarietà* (CS)) are limited to (various categories of) wage employment and are mostly financed by contributions from employers and employees. ID is a standard unemployment benefit that lasts 6 to 9 months depending on various conditions and covers about 40% of the wage up to a maximum amount close to the poverty level. With CIG, IM, and CS the job is formally maintained (although the work activity is suspended or reduced) and a benefit that amounts up to 80% of the wage is received by the employee for a period that varies between 3 months and 3 years. There appear to be three main undesirable features of these policies: (a) being they more aimed at preserving the job rather than the worker's income and opportunities, the labour reallocation from unprofitable jobs to more promising ones is severely discouraged; (b) they are limited to certain sector and types of contract, thus generating social exclusion and processes of the insider-outsider type; (c) often some of the contingent interventions have to go through a bargaining process involving firms, unions and local or central authorities, thus adding more sources of potential inequities.

The anti-poverty interventions are mainly aimed at supporting low pensions, disabled people and low-income families with a mean-tested transfer (*Assegno per il Nucleo Familiare*) which is however limited to wage employees. Embodied in the personal income taxation system there are also tax credits and child benefits that can be classified as anti-poverty policies. It has been observed that the design of the mean-tested tax credits and child benefits create distortions

and bad incentives for labour market participations of married women (Colonna and Marcassa, 2011).

Overall, the empirical evidence suggests that the current Italian system of income support policies, although costly, is defective with respect to both efficiency goals (e.g. minimizing distortions and supporting labour mobility) and equity goals (e.g. reducing poverty and economic insecurity).<sup>4</sup>

In this paper we will consider various versions of hypothetical income support policies that – differently from the current policies described above – are universal, meaning that they are not conditional upon professional or occupational categories or on bargaining or contingent financial constraints. As it is typically the case with universal policies, they are financed by general taxes. These reforms are stylized cases representative of the different scenarios that are discussed or even actually implemented in many countries.

In the following description of the policies there appears a “threshold”  $G$  that will be defined below.

**Guaranteed Minimum Income (GMI).** Each individual receives a transfer equal to  $G - I$  if single or  $G/2 - I$  if partner in a couple provided  $I < G$  (or  $I < G/2$ ), where  $I$  denotes individual taxable income. This is the standard conditional (or means-tested) income support mechanism.

**Unconditional Basic Income (UBI).** Each individual receives an unconditional transfer equal to  $G$  if single or  $G/2$  if partner in a couple. It is the basic version of the system discussed for

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<sup>4</sup> See for example Baldini et al. (2002), Boeri and Perotti (2002) and Sacchi (2005). In March 2012 the Italian Government has designed a reform of the income support institutions, at the moment under discussion by the Parliament. Although the reform is being declared as inspired by more universalistic principles and it contains indeed some moves toward those directions, so far it does not seem to change the basic characteristics of the current system.

example by Van Parijs (1995) and also known in the policy debate as “citizen’s income” or “social dividend” (Meade 1995; Van Trier 1995).

**Wage Subsidy (WS).** Each individual receives a 10% subsidy on the gross hourly wage and her/his income is not taxed as long as her/his gross income (including the subsidy) does not exceed  $G$  if single or  $G/2$  if partner in a couple. This is close to various in-work benefits or tax-credits reforms introduced for example in the USA (Earned Income Tax Credit), in the UK (In-Work Benefits) and in Sweden.<sup>5</sup>

**GMI + WS** and **UBI + WS** are mixed mechanisms where the transfer is coupled with the wage subsidy, but with the threshold redefined as  $0.5G$ .<sup>6</sup>

In order to define  $G$ , let us preliminary define

$C$  = total net available income (current) of the household:

$N$  = total number of components of household  $n$ .

$\tilde{C} = C/\sqrt{N}$  = “individual-equivalent” income.

$P = \text{median}(\tilde{C})/2$  = Poverty Line.

Then:

$$G = aP\sqrt{N},^7$$

where  $a \in [0,1]$  is a “coverage” rate, i.e. what proportion of the poverty line is covered by  $G$ . For each reform we simulate three versions with different values of  $a$ : 1, 0.75 and 0.50. For example,

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<sup>5</sup> Many authors have recently analysed or suggested in-work-benefits policies for Italy (Colonna and Marcassa 2011, Figari 2011, De Luca et al. 2012)

<sup>6</sup> A mixed system close to GMI+WS has been proposed in Italy by De Vincenti and Paladini (2009).

<sup>7</sup> The “square root scale” is one of the equivalence scales commonly used in OECD publications.

$G=0.5P\sqrt{3}$  means that for a household with 3 components the threshold is  $\frac{1}{2}$  of the Poverty Line times the equivalence scale  $\sqrt{3}$ .

The income support mechanism is matched with a progressive tax that replicates the current system but with marginal tax rates applied to the whole income exceeding  $G$  (or  $G/2$ ) and proportionally adjusted according to a constant  $\tau$  (the parameter  $\tau$  is used in the simulation as a calibrating device in order to fulfil the public budget constraint). Altogether we have 5 (types)  $\times$  3 (values of  $a$ ) = 15 reforms.

### 3. Simulation

In order to simulate and evaluate the effects of the reforms we have developed and estimated a microeconomic model of household labour supply using a sample of Italian couples and singles. The model makes it possible to simulate the new labour supply choices made by the households given the new incentives and constraints implied by the different hypothetical reforms. The estimation and the simulation are based on a sample of couple and single households from Bank-of-Italy's Survey of Household Income and Wealth (SHIW) for the year 1998.<sup>8</sup> Both partners of couple households and heads of single households are aged 20 – 55 and are wage employed, self-employed, unemployed or inactive (but students and disabled are excluded). As a result of the above selection criteria we are left with 2955 couples, 366 single females and 291 single males.

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<sup>8</sup> More recent surveys are of course available. However, the years following 2000 envisage a more turbulent macroeconomic scenario with respect 1998. In any case, the analysis presented in this paper is a comparative statics exercise: it concerns the evaluation and design of institutions, i.e. policies that should be assumed to stay for a relatively long period; as a counterpart, preferences should be assumed to be stable.

The microeconomic model is similar to the one used in Colombino et al. (2010) and it is fully explained in Colombino (2011).

Each reform defines a new budget constraint for each household. The simulation consists of running the model after replacing the current budget constraint with the reformed one. The procedure adopted in this paper has two distinctive features that are not common in the tax reform literature. First, the reforms are simulated under the constraint of being fiscally neutral, i.e. they generate the same total net tax revenue as the current 1998 system. This requires a two-level simulation procedure. At the “low” level, household choices are simulated given the values of the tax-transfer parameters. At the “high” level, the parameter  $\tau$  (defined in Section 2) is calibrated so that the total net tax revenue remains constant. Second, the simulation is conducted under equilibrium conditions for different hypothetical values of the elasticity of the demand for labour. We adopt a procedure that is specifically appropriate for the microeconomic model and makes the simulation results consistent with a comparative statics interpretation of the results (Colombino 2012). Five simulation procedures are adopted: one where the equilibrium conditions are ignored and four more where the equilibrium conditions are determined by alternative values of the elasticity of labour demand  $\eta = 0, -0.5, -1.0, -\infty$ .<sup>9</sup> The standard procedure adopted in tax reform simulation when using microeconomic models of labour supply consists of ignoring market equilibrium. When instead equilibrium is taken into account, the following happens: the

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<sup>9</sup> Besides the 15 alternative reforms we also simulate a tax-transfer system – that we call “current” – with the same five alternative procedures used for the reforms: it is characterized by the same income support mechanism as in the true current system, but the tax rule is given a simplified representation as in the reforms: namely, we apply the marginal tax rates to the whole personal income. Therefore we compare what would happen with this system and with the reforms under the alternative equilibrium conditions. We think this procedure is preferable to the standard one consisting of comparing the observed *status quo* to the reforms. The results reported in Colombino (2011) are in part different from the ones reported here since the current system is defined there as the observed *status quo*.

reform induces a new location of the labour supply curve; therefore a new equilibrium is determined by the intersection of the new labour supply curve and the labour demand curve (assumed to be unchanged); the changes in the new equilibrium employment and the new equilibrium wage depend on the value of  $\eta$ ; if  $\eta = 0$ , employment does not change and the whole effect of the reform is absorbed by a change in the wage rate; if  $\eta = -\infty$ , the wage rate does not change and the whole effect is absorbed by the change in employment; for values of  $\eta$  lower than 0 and greater than  $-\infty$ , both wage rates and employment change and the closer  $\eta$  is to  $-\infty$  the larger will be the employment change relative to the wage change. The empirical evidence upon the elasticity of labour demand suggests values of  $\eta$  around -0.5 or -1.0.

In what follows, the policies and their implications will be presented as ranked according to the Gini Social Welfare function, i.e.:

$$(\text{Average Individual Welfare}) \times (1 - \text{Gini index of the distribution of Individual Welfare}).^{10}$$

Individual Welfare is the money metric equivalent of the maximum attainable utility level as estimated by the microeconomic model.<sup>11</sup> Colombino (2011, 2012) provides more technical details upon these measures.

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<sup>10</sup> See Aaberge (2007) and Aaberge and Colombino (2011, 2012). The Gini Social Welfare Function is also analogous to Sen (1976) Index:  $(\text{Average Income}) \times (1 - \text{Gini index of income distribution})$ .

<sup>11</sup> See King (1983).

#### 4. Results and concluding remarks

Tables 1 – 5 report some results of the simulations. The policies are ranked in descending order (the best one at the top) according to the Social Welfare function defined in Section 3. The reforms are identified by the content of the first two columns: the income support mechanism (GMI etc.) and the coverage, i.e. the value of  $a$  (0.5, 0.75 or 1) defined in section 5.2. For example, (UBI+WS, 0.75) denotes a policy where the income support mechanism is UBI+WS and  $G$  is 75% of the Poverty line.

For each reform we report three pieces of information related to behavioural effects (annual hours of work), distortions (top marginal tax rate) and distributive effects (poverty rate).

Most reforms rank better than the current system. In most cases, the mechanisms envisaging unconditional transfers (UBI or UBI+WS) rank better than the mean-tested systems. The greater generosity of the unconditional transfers is compensated by the lack of poverty-trap effects, so that both the conditional and the unconditional systems imply very modest reductions in labour supply; however, the unconditional systems perform better in favouring distributional equity and reducing poverty.

The different simulation procedures lead to notable differences in the results. The standard (no-equilibrium) procedure seems to favour a more generous coverage: out of the five best policies of Table 1, two have  $a = 1$ , two have  $a = 0.75$  and one has  $a = 0.5$ . In the other Tables the average coverage among the first five best policies is lower and it decreases with respect to  $\eta$ . The no-equilibrium procedure favours also pure unconditional policies: three positions out of the first five of Table 1 are occupied by UBI policies. On the contrary, when we

assume  $\eta = 0$ , three out of the first five policies are mean-tested (GMI). In the other cases, the results are more mixed, with some prevalence of UBI+WS policies. The current mechanism of income support is always ranked at the bottom, except when  $\eta = -\infty$ . With  $\eta$  approaching  $-\infty$ , less generous policies – including the current one – move up in the ranking. This happens because a more elastic labour demand moderates the increase in equilibrium wages, which in turn implies higher equilibrium tax rates. In most cases the income effects induced by the reforms appear to work in opposite directions for females and males: the reforms induce more (less) hours worked by of women (men) when compared to the current system, the exception being again the simulation with  $\eta = -\infty$ , where, under the three worst policies, women work fewer hours than under the current system.

The typical objections against universalistic policies of income support are based on the expectation of strong disincentive effects on labour supply and high tax rates required by the public budget constraint. The first expectation (strong disincentive effects on labour supply) is not supported by our results: the overall disincentive effects are small. The second expectation (high marginal tax rates) instead is confirmed by our results. UBI+WS\_P\_0.75 (the best policy with  $\eta = -0.5$  or  $-1.0$ ) would require a top marginal tax rate equal to 50.2%, to be compared with the 43.7% required by the current system. It should be noticed however that these figures are high but not at all unrealistic, particularly when compared to the top marginal tax rates in the Scandinavian countries. Even if the above tax rates were judged for some reasons not feasible (possibly from the point of view of political consensus), it must be remembered that the *menu* of

welfare improving reforms is very large and contains policies requiring lower marginal tax rates. Moreover, instead of increasing the marginal tax rates on income, one might think of a different structure of taxation e.g. increasing taxes on wealth and on (selected) consumption expenditures.

<b>Table 1. No equilibrium</b>					
<i>Income Support Mechanism</i>	<i>Coverage</i>	<b>Annual Average Hours of Work (Women)</b>	<b>Annual Average Hours of Work (Men)</b>	<b>Top Marginal Tax Rate (%)</b>	<b>Head Count Poverty Ratio</b>
<b>UBI+WS</b>	1.00	999	2042	53.6	0.17
<b>UBI</b>	0.75	991	2039	55.4	0.04
<b>UBI+WS</b>	0.75	1004	2043	51.3	1.01
<b>UBI</b>	0.50	1000	2042	50.9	0.52
<b>UBI</b>	1.00	982	2036	59.9	0.00
<b>WS</b>	1.00	1016	2046	48.2	3.38
<b>UBI+WS</b>	0.50	1008	2045	49.5	2.44
<b>WS</b>	0.75	1015	2046	47.3	3.67
<b>WS</b>	0.50	1016	2047	46.8	4.11
<b>GMI+WS</b>	1.00	1000	2043	50.9	1.43
<b>GMI+WS</b>	0.75	1005	2044	49.1	2.34
<b>GMI+WS</b>	0.50	1008	2045	47.7	3.26
<b>GMI</b>	0.50	1000	2044	45.9	2.36
<b>GMI</b>	1.00	983	2039	51.3	0.01
<b>GMI</b>	0.75	992	2042	48.2	0.87
<b>Current</b>		945	2063	43.7	4.33

<b>Table 2. Equilibrium with <math>\eta = 0</math></b>					
<i>Income Support Mechanism</i>	<i>Coverage</i>	<b>Annual Average Hours of Work (Women)</b>	<b>Annual Average Hours of Work (Men)</b>	<b>Top Marginal Tax Rate (%)</b>	<b>Head Count Poverty Ratio</b>
<b>GMI</b>	1	1005	2046	48.2	0.26
<b>GMI</b>	0.75	1009	2047	45.7	1.32
<b>UBI</b>	0.5	1009	2044	50.0	0.62
<b>GMI</b>	0.5	1013	2048	44.9	2.95
<b>UBI+WS</b>	0.5	1014	2048	48.9	2.64
<b>UBI+WS</b>	0.75	1010	2046	49.9	1.00
<b>UBI+WS</b>	1	1005	2044	52.3	0.24
<b>GMI+WS</b>	1	1010	2046	49.7	1.03
<b>UBI</b>	0.75	996	2040	54.7	0.06
<b>GMI+WS</b>	0.75	1010	2046	48.0	2.42
<b>GMI+WS</b>	0.5	1014	2047	47.4	3.41
<b>WS</b>	0.5	1016	2047	46.8	4.15
<b>WS</b>	1	1017	2047	48.0	2.99
<b>WS</b>	0.75	1014	2047	46.9	3.63
<b>UBI</b>	1	971	2032	62.0	0.00
<b>Current</b>		945	2063	43.7	4.33

**Table 3. Equilibrium with  $\eta = -0.5$**

<i>Income Support Mechanism</i>	<i>Coverage</i>	<b>Annual Average Hours of Work (Women)</b>	<b>Annual Average Hours of Work (Men)</b>	<b>Top Marginal Tax Rate (%)</b>	<b>Head Count Poverty Ratio</b>
<b>UBI+WS</b>	0.75	1009	2044	50.2	0.95
<b>UBI+WS</b>	0.5	1013	2046	49.2	2.52
<b>WS</b>	0.75	1020	2047	46.5	3.65
<b>WS</b>	0.5	1019	2047	46.6	4.14
<b>GMI+WS</b>	0.5	1012	2046	47.7	3.40
<b>GMI+WS</b>	0.75	1009	2045	48.3	2.38
<b>WS</b>	1	1019	2046	47.9	3.04
<b>UBI</b>	0.5	1002	2042	50.9	0.52
<b>UBI</b>	0.75	993	2038	55.3	0.04
<b>UBI+WS</b>	1	1004	2040	53.0	0.18
<b>UBI</b>	1	984	2035	59.8	0.00
<b>GMI</b>	0.5	1005	2045	45.8	2.48
<b>GMI</b>	0.75	996	2043	47.3	0.81
<b>GMI+WS</b>	1	1004	2043	50.7	0.79
<b>GMI</b>	1	986	2040	50.9	0.00
<b>Current</b>		945	2063	43.7	4.33

**Table 4. Equilibrium with  $\eta = -1.0$**

<i>Income Support Mechanism</i>	<i>Coverage</i>	<b>Annual Average Hours of Work (Women)</b>	<b>Annual Average Hours of Work (Men)</b>	<b>Top Marginal Tax Rate (%)</b>	<b>Head Count Poverty Ratio</b>
<b>UBI+WS</b>	0.75	1011	2043	50.2	0.95
<b>UBI+WS</b>	0.5	1014	2045	49.2	2.52
<b>WS</b>	0.75	1021	2046	46.5	3.66
<b>WS</b>	0.5	1021	2047	46.6	4.14
<b>GMI+WS</b>	0.5	1013	2046	47.6	3.40
<b>GMI+WS</b>	0.75	1010	2045	48.3	2.38
<b>WS</b>	1	1020	2046	47.9	3.04
<b>UBI</b>	0.5	1003	2041	50.8	0.52
<b>UBI</b>	0.75	994	2038	55.2	0.04
<b>UBI+WS</b>	1	1005	2040	52.9	0.20
<b>UBI</b>	1	985	2034	59.7	0.00
<b>GMI</b>	0.5	1005	2044	45.7	2.48
<b>GMI+WS</b>	1	1005	2043	50.6	0.79
<b>GMI</b>	0.75	997	2042	47.2	0.81
<b>GMI</b>	1	988	2039	51.1	0.01
<b>Current</b>		945	2063	43.7	4.33

**Table 5. Equilibrium with  $\eta = -\infty$**

<i>Income Support Mechanism</i>	<i>Coverage</i>	<b>Annual Average Hours of Work (Women)</b>	<b>Annual Average Hours of Work (Men)</b>	<b>Top Marginal Tax Rate (%)</b>	<b>Head Count Poverty Ratio</b>
<b>UBI+WS</b>	0.5	982	2044	49.3	2.53
<b>GMI+WS</b>	0.5	981	2045	47.7	3.31
<b>WS</b>	0.5	985	2046	46.6	4.16
<b>UBI</b>	0.5	969	2040	50.9	0.46
<b>GMI</b>	0.5	971	2043	45.9	2.44
<b>Current</b>		914	2062	43.7	4.42
<b>UBI+WS</b>	0.75	948	2040	50.4	0.85
<b>GMI+WS</b>	0.75	947	2042	48.6	2.19
<b>WS</b>	0.75	953	2044	46.6	3.64
<b>UBI</b>	0.75	928	2035	55.5	0.02
<b>GMI</b>	0.75	931	2039	47.7	0.72
<b>UBI+WS</b>	1	912	2036	53.3	0.05
<b>WS</b>	1	922	2041	48.1	2.95
<b>GMI+WS</b>	1	911	2038	51.2	0.73
<b>UBI</b>	1	888	2030	60.3	0.00
<b>GMI</b>	1	890	2034	52.1	0.00

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