

How to Deal with Different Generations? Study of Generational Accounting in Iran

Babak Jamshidinavid¹, Ghodrattallah Talebnia², Ramazanali Royae³, Farhad Ghafari⁴

^{1,2,3} Department of Accounting, Science and Research Branch, Islamic Azad University, Tehran, Iran

⁴ Department of Economy, Science and Research Branch, Islamic Azad University, Tehran, Iran

ABSTRACT

To seek recent global recession and financial crisis, large fraction budget in many countries arose and this increase quick ratio debt to GDP most of the country. The main purpose of this paper consider how to deal with different generations (Current generation and future generations) from the perspective of generational accounting. generational accounting a system that in the late twentieth century. By Auerbach and colleagues for measuring impose a financial burden relative on different generations evolved and expanded. the results of using generational accounting models in Iran showed that a generational imbalance. There is a 877 percent if you are considering education spending transfers as this lack of balance 1179 percent. this thread means that future generations In Iran financial pressures equivalent 12 times the current generation will face. the sensitivity analysis model if the rate of Value Added Tax the year 2009 (base year) that is 3% Until 2018 to reach about 10 percent, generational balance will be maintained.

KEYWORDS: Accounting generation, Generational balance, financial burden, budget deficit

INTRODUCTION

Recent years indicative of the growing fiscal deficit in many countries .many economists are trying to find the answer the current cash flow what long-term effects the financial policy of the government and investment and ultimately affect economic growth. another question that is raised this is how the different generations treat. Scientists believe that the budget deficit swelling and economic growth and will state assets (Auerbach et al, 1992).

Many developed countries with large fiscal adjustments necessary are facing it seems that the recent global recession and the financial crisis lead to more attention it is necessary, because a large fraction in many countries in this period due to the rapid increase in the debt ratio of the GDP. for some countries, necessary fiscal adjustment would be imminent. for some perhaps this event occur with some delay (Auerbach, 2011). standards board of government accounting (GASB) believes that between the rights of the period one of the components of accountability and the principles of public administration is considered (Babajani, 1999).

Alan J. Auerbach, Jagadeesh Gokhale and Laurence J. Kotlikoff (1994) in an article entitled generational accounting significant substitution to account the budget deficit, as are the conceptual issues related the word budget deficit, distributed between intergenerational social welfare. in particular, the paid generations to finance government expenditures and financial assistance is different. from the perspective of economic theory, traditional accounting deficit cannot pressure is responsible for the generation and appropriate assessment generation of policy offer. if the budget deficit the actual relationship with no intergenerational policies, what criterion deals with this issue? according to economic theory, generational accounts answer this question. The accounts enable the government to download and payments the present value of the generation shall computed.

3 - Review of the financial position and a budget deficit

The following comments the information contained government's financial situation, revenues from oil exports, production, consumption and accumulated reserves of oil, dependency ratio oil revenues to the state budget, Status of state pension fund, Social Security and the aging of the population. Require use of generational accounting system in the country to adopt policies run the show. according to report Summary economic developments the Year 2009 Central Bank of the Islamic Republic of Iran in March 2011 has been published the operations level (general revenue minus expenses - General) in 2005, during the year 2009 is described below.

*Corresponding Author: Babak Jamshidinavid, Department of Accounting, Science and Research Branch, Islamic Azad University, Tehran, Iran.

Table (1) the operational level – amounts a billion rials

Sum	2009	2008	2007	2006	2005	Description
1.759.506	384.288	466.546	379.338	298.203	231.131	Public revenues
(167.322)	-	(58.776)	(58.712)	(26.313)	(23.521)	The government share of profits from the production of crude oil
(43.494)	(19.300)	(24.194)	-	-	-	Surplus oil revenue in the previous year
(128.802)	-	(36.731)	(36.700)	(29.237)	(26.134)	Taxes Oil the performance
1.419.888	364.988	346.845	283.926	242.653	181.476	Net Public revenues
(2.672.921)	(659.342)	(593.784)	(582.722)	(421.285)	(415.788)	Public expenditure
(1.253.033)	(294.354)	(246.939)	(298.796)	(178.632)	(234.312)	Operations level
88	81	71	105	74	129	Percent deficit

Source: Central Bank of the Islamic Republic of Iran

As we information table Shows government operational level. in the years reference case negative and the deficit from transfer capital asset (Sale of oil and oil products) have been supplied. to obtain net general government revenues the government share of profit the value of crude oil production dividend of surplus oil and taxes on oil yield reported earnings are deducted from the total. this issue than one side reflect heavy reliance on government funding the proceeds from the sale of oil on the other hand lack of public participation in providing resources for government through tax. this foregoing the role of government accountability and the public will reply to undermine.

- The composition of government revenues, the share of oil revenues, the government in the years from 2005 Year 2009 is summarized below:

Table (2) the share of oil revenue - state money a billion rials

sum	2009	2008	2007	2006	2005	Description
1.419.888	364.988	346.845	283.926	242.653	181.476	Net Public revenues
2.163.476	480.547	415.278	534.009	349.709	383.433	Oil revenues
						Transfer offinancial assets
3.863.147	971.074	845.273	842.202	629.609	574.989	Total revenues from government
56	49	49	63	56	67	Percent share of oil revenues

Source: Central Bank of the Islamic Republic of Iran

As the table above shows during the five-year report 56% total revenues from government the oil field is provided.

In less than seven years, oil prices more than six doubled the largest increases The last two years have been. thus, the country substantial financial resources has achieved. but the current generation of right to income derived the God-given-sale investments to meet the needs of today and cover running costs apply and it takes longer economically that future generations. national wealth and natural capital they lack? applying this rule efficient resource given that income needs and the welfare of future generations to be applied (Kianpour, 2011).

While the the number of co-workers state pension fund has decreased in recent years, number of pensioners there is an increasing trend the problem on one side reduce sources offunds received (premiums) and on the other fund expenses are increasing. against Severe reduction in number of employees in recent decades pensioners of state pension fund in 2009 compared with 1365, seven-fold despite the age and life expectancy in most parts of the world including Iran. and although most countries the retirement age in line with demographic changes have increased, retirement age in our country. Remains low. this issue has caused on one side subscribers fund fewer years to pay premiums and on the other should receive more in retirement benefits (Modarresi Alam, 2011). census of Population and Housing 1956 to 2011 the aging index of 3/97% of the 5/78 percent increase.

The study the recently developed technique developed a generational accounting uses. to assess the financial position of pay in the long run. generational accounting as known an option has replaced the traditional deficit accounting. because a more detailed picture inter-generational distribution offinancial capacity provide macroeconomic effects. previous studies there is a significant imbalance between the generation is approved in many countries.

Generational accounting method planning financial analysis and long-term.

It aims to assess the reliability of financial policy and measurement of financial pressures. The current generation and future generations are facing. Auerbach and colleagues (1991) as stated in their paper accounting system deficit not able to answer the questions posed above.

When the effects of particular policies, the budget deficit and generational accounts are compared, superiority of generational accounting on accounting deficit it is immediately clear. Policies pressure pattern generation change budget deficit does not necessarily shall not affect, while the other policies may no effect on the deficit stress pattern of generational change.

4 - Research question:

1. What is Generational accounting models pattern in Iran?
2. What factors generational accounting model for designing and developing Iran is in need?
3. Whether from the perspective of generational accounting general government revenues, General government expenditure covers?
4. Given the state's fiscal situation current fiscal policy can be sustained?
5. In transmission education expenditures in from current cost spending into account the transfer Generational accounting model what changes in government fiscal balance occur?
6. Generational accounting to what extent in the balance between current and future generations of and effective justice between generations?
7. Generational accounting model how in assessing financial stability and economic effects?
8. Generational accounting model how short-term financial planning and the long term effects?
9. Generational accounting model how to modify country current policies and laws help?

5 - Generational accounting principles:

Generational accounting: the system in the late twentieth century. by Auerbach and colleagues To measure the relative financial burden imposed on different generations evolved and expanded.

Intertemporal budget constraint: based on generational accounting the restriction the intertemporal budget constraint is based. This restriction assumes that total all accounts generation (current generation and future generations) Should equal to the present value of government consumption expenditure, minus the net worth of government. The formula is as follows:

$$\sum_{k=t-D}^t N_{t,k} + \frac{\sum_{k=t+1}^{\infty} N_{t,k}}{(t+r)^{k-t}} = \sum_{s=t}^{\infty} \frac{G_s}{(1+r)^{s-t}} - W_t^g$$

In the left side of the equation, generational accounts among the current generation and future generations is divided.

G government consumption and W is the net wealth.

Consumption (spending), public administration including education expenditure, public health, social Security Security and defense issues in society.

Net government wealth: including gross wealth (Financial assets), the after deduction of the internal and external public debt is.

Generational accounts: consists of net present value of taxes paid during the life of a group. thus generational account for each group can be written as follows:

$$N_{t,k} = \sum_{s=\max(t,k)}^{k+D} T_{s,k} \frac{P_{s,k}}{P_{t,k}} (1+r)^{-(s-t)}$$

$N_{t,k}$ Account generation, the generation born in year k's in year t

$T_{s,k}$ Net tax paid in year s by the generation born in the year k

$$\frac{P_{s,k}}{P_{t,k}}$$
 Born proportion in year k .S living in to those who were alive In the age t
D Maximum life expectancy (life expectancy generation born in year k) per year
r Annualdiscount rate
k generation of live birth year
t base year

Net tax payable includes a variety of direct and indirect taxes In the the state sad he said; and participation in social security after deduction of transfer payments.

6 - Assumptions underlying in the calculation of generational accounts:

To produce generational accounts, needed to predict population taxes, transfer payments, government expenditure, the initial value of the net assets, financial we have discounted rates. we consider the total effect, general impacts or effects on public be considered separately.

Typically, we assume that government expenditure similar rates of growth GDP increases. although in some cases we the purchase Components in certain age divide and assume that each component per Each member of the population, Unchanged based on the overall growth GDP per capita is adjusted. this is due to components of government purchases more or less rapidly the GDP growth is expected, accordance with the relevant population, increases or as part of the Population decline.

With the cost of government infrastructure like other forms of cost the calculation is treated. although some of the costs instead to be done once, a growing trend to provide and will continue to pay for it. generational accounting shows that generation or the next generation will have the bear the financial burden of these costs. the assets of the state, our government net financial assets we calculate the (financial assets gross debt minus).real property to a public entity these calculations do not consider the but instead of net income was forecast of these institutions the anticipated cost of the we deducted.as effectiveness of this process the value of these institutions the capital is considered.

Taxes and transfer payments each one are divided into different categories. our general rule the tax incidence is while the income tax law consumption tax and pay taxes on wealth and property assuming tax payments to suppliers incur. there are two exceptions in this regard.

Both involve a capital income tax.first, we between marginal capital income tax and incidental income tax we distinguish.not final income tax the current holders of the capital is distributed. while marginal income tax based on predicting the Future holders of the capital is located. Secondly, in the case of small open economies, it is assumed that marginal income tax be tolerated by the company's employees (and therefore is allocated to them).

6 - Variables and data sources:

- Select a base year (t)

In this study, because last year, the national accounts data government and published accounts 2009 was the year as the base year is considered.

- Discount rate (r)

with regard to fact that at the time of the study risk-free rate of return in country the interest rate bonds 17% has been in this study, the discount rate 17% are considered. but the sensitivity analysis was conducted computing Research a discount rate of about 15% to 20% as is been considered.

- Growth rate (g)

In most studies in different countries for generation computing the growth rate productivity growth rates are considered and have assumed that taxes and government consumption spending the growth rate of productivity increases. In our country based on studies indices most appropriate GDP growth rate Increase. In order to growth accounting model generation GDP growth rate in Iran considered according to economic indicators report Year 2009 central bank considering the amount of oil 6 percent.

- Taxes and contributions in pension and social security:

Revenue from national accounts statistics Summary reports and economic development in 2009 central bank of the Islamic republic of Iran has been obtained. direct and indirect taxes are taxes included. direct taxes include: Legal entities tax, income tax, wealth tax and indirect taxes include: Import taxes, value added tax, taxes on goods and services.

- Transfer payments:

These payments include retirement and disability benefits and unemployment insurance, and general insurance and subsidies training costs and other benefits that the one-way people are paid by the government. the payments from the national accounts statistics state pension fund reports, social security, Imam Khomeini Relief Committee (s) and the welfare state the year 2009 has been received.

- Net of taxes

Is Sum of direct and indirect taxes and participation in community the social security minus government transfer payments.

- Training costs:

education spending the state accounts the current account is in order. in this study, the cost of generation offinancial balance calculated .the calculations assume consider the spending account transfer costs furrows.

- The government consumption expenditure:

Government consumption expenditure national accounts data Central Bank of Iran (National Accounts 2005 to 2009) and the government's annual budget is obtained. Government consumption spending in terms of tasks, including: Public services , defense services, police services, education services, health services, compulsory social security services, recreation, sport and cultural in 2009 the current price is considered.

- Net government wealth:

purpose of net worth of the government financial assets the public debt is deductible. offinancial assets and liabilities national accounts data and economic indicators of the central bank of the Islamic republic of Iran has been obtained. financial assets, including government cash. thenational development fund reserve fund anddebt includes all domestic andforeign currency debt and Real State the year is 2009.

- Demographics (Demography):

Is defined as divided population structure to different age groups such as the newborn to 18 year age group (non-working) 19 to 50 year age group (young people do), age group 51 to 64 years (old age thing) and 65 years (non-working age group). other demographic issues fertility rate rates and life expectancy generation is different. thedemographic age dependency ratio groups are determined. for example, the elderly dependency ratio Is defined as the number of people over 65 years divided by the number of people 19 to 50 years. generational accounts requires detailed predictions of the could be three possible scenarios the option to average, high and low differentiation causes.

7 - Base Results

The following table the age distribution of taxes and transfer payments and net taxes (Taxes and contributions of individuals minus transfer payments) in 2009 shows.

Source: author's calculations

Age classes	Tax on legal entities	Income Tax	Tax on wealth	Collect direct taxes	Tax on imports	Value added tax	Tax on goods and services	Collection of indirect taxes	The total tax	Pension insurance	Pension rights	Net payments
0	4	1	0	6	13	106	3	122	128	8	0	135
1-4	10	4	1	15	43	311	9	364	378	19	1	396
5-9	30	11	3	43	57	451	12	520	564	56	3	617
10-14	59	21	6	85	56	452	12	520	605	111	6	709
15-19	101	36	10	146	60	450	13	523	670	191	12	848
20-24	161	57	15	233	71	494	15	580	813	292	31	1075
25-29	169	60	16	245	80	580	17	678	923	319	71	1171
30-34	157	56	15	227	78	635	17	730	958	304	144	1118
35-39	110	39	10	159	69	603	15	688	847	208	415	640
40-44	66	23	6	96	60	525	13	598	693	125	686	133
45-49	19	7	2	27	50	438	11	499	526	35	1112	-551
50-54	0	0	0	0	39	331	9	379	379	0	1117	-737
55-59	0	0	0	0	29	237	6	272	272	0	857	-585
60-64	0	0	0	0	18	145	4	167	167	0	566	-399
65-69	0	0	0	0	9	54	2	65	65	0	292	-226
70-74	0	0	0	0	4	4	1	9	9	0	127	-118
75-79	0	0	0	0	1	0	0	1	1	0	30	-29
80+	0	0	0	0	1	0	0	1	1	0	26	-25
sum	886	313	84	1283	739	5819	161	6718	8001	1669	5522	4148

As it can be seen age group 29-25 years and 34-30 years, net taxes are highest. the reason for this Pay More Taxes remember revenue and receive transfer payments is less. Instead, the age group 59-55 years most net of taxes is negative, this is due to lower taxes transfers and benefits further. Based on the current value total net payments of current generation is 4,148 trillion rials.

The equation budget constraints between periodic net present value offuture payments Generation which remains equation is obtained, The amount is 1,322 trillion rials. Table of budget constraints the budget period the figures for 2009 The basic model is as follows:

Table (4) budget constraint equation in the course of government

Description	thousand billion Rials
NPV Payment of the current generation	4148
NPV Payment of future generations	1322
sum	5469
Present value of government consumption	5113
Government net financial assets	356
sum	5469

Source: author's calculations

By comparing the net present value payments for future generations and born in the year 2009 (base year) generational imbalance model generational accounting is specified. the following table generation accounts current and future generations in the base model shows:

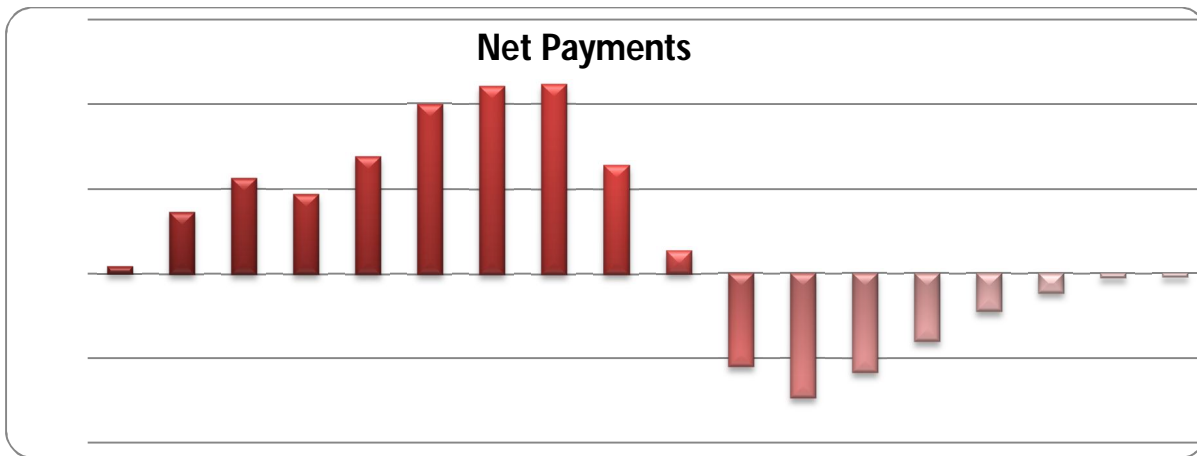
Table (5) generational accounts for current and future generations of 2009 (Figures in thousand billion Rials)

Age classes	Net payments
0	135
1-4	396
5-9	617
10-14	709
15-19	848
20-24	1075
25-29	1171
30-34	1118
35-39	640
40-44	133
45-49	-551
50-54	-737

55-59	-585
60-64	-399
65-69	-226
70-74	-118
75-79	-29
80+	-25
Nextgeneration	1322
Generational imbalance	1187
Of generation alim balance	877.09

Source: author's calculations

Just as can be seen in the table above percentage of generational imbalance.in Iran based on the current fiscal policy and assuming continuation of these policies approximately 877 percent. This imbalance is stunning and shows future generations about 9 times the current generation will bear the financial burden. generation chart of accounts year 2009 is as follows



Graph (1) generational accounts the current generation (in thousand billion Rials)

To achieve generational balance. it is assumed that government's Value Added Tax according to the Fifth National Development Plan up to 8 percent increase since 2015, the increase in the two years after that (ie until 1396) to about 10% transparency.in this case, equilibrium is established almost a generation. this change results the government's fiscal policy is as follows.

Table (6) budget constraint equation the government periodically

Description	thousand billion Rials
NPV Payment of the current generation	5313
NPV Payment offuture generations	156
sum	5469
Present value of government consumption	5113
Government net financial assets	356
sum	5469

Source: author's calculations

Table (7) generational accounts for present and future generations - 2009 (figures in thousand billion Rials)

Age classes	Net payments
0	157
1-4	455
5-9	709
10-14	802
15-19	939
20-24	1168
25-29	1278
30-34	1243
35-39	767
40-44	246
45-49	-457
50-54	-669

55-59	-538
60-64	-372
65-69	-219
70-74	-118
75-79	-29
80+	-25
Next generation	156
Generational imbalance	-1
Of generation alim balance	-05

Source: author's calculations

Just as can be seen with a change in fiscal policy through an increase in value added Tax generational balance is restored.

Previous calculations was presented with the assumption that education spending government consumption spending in a row was. now a generation computing with the assumption of expenditure on education transfer payments, carried out. In this case, Growth rates of GDP 6% and 17% discount rate Is assumed. the table summarizes the tax and transfer payments and net payments are as follows:

Table (8) Net payments In terms of age groups In 2009 (Figures in thousand billion Rials)

Ageclasses	Corporate Tax	Income Tax	Taxes on wealth	Collect direct taxes	Taxes on imports	Value Added Tax	Taxes on goods and services	Collection of indirect taxes	The total tax	Pension Insurance	Pension rights	Cost of Education	Cost of Higher Education	net
0	4	1	0	6	13	106	3	122	128	8	0	89	3	43
1-4	10	4	1	15	43	311	9	364	378	19	1	28	7	362
5-9	30	11	3	43	57	451	12	520	564	56	3	31	22	564
10-14	59	21	6	85	56	452	12	520	605	111	6	204	38	466
15-19	101	36	10	146	60	450	13	523	670	191	12	114	45	689
20-24	161	57	15	233	71	494	15	580	813	292	31	0	79	996
25-29	169	60	16	245	80	580	17	678	923	319	71	0	62	1108
30-34	157	56	15	227	78	635	17	730	958	304	144	0	0	1118
35-39	110	39	10	159	69	603	15	688	847	208	415	0	0	640
40-44	66	23	6	96	60	525	13	598	693	125	686	0	0	133
45-49	19	7	2	27	50	438	11	499	526	35	1112	0	0	-551
50-54	0	0	0	0	39	331	9	379	379	0	1117	0	0	-737
55-59	0	0	0	0	29	237	6	272	272	0	857	0	0	-585
60-64	0	0	0	0	18	145	4	167	167	0	566	0	0	-399
65-69	0	0	0	0	9	54	2	65	65	0	292	0	0	-226
70-74	0	0	0	0	4	4	1	9	9	0	127	0	0	-118
75-79	0	0	0	0	1	0	0	1	1	0	30	0	0	-29
80+	0	0	0	0	1	0	0	1	1	0	26	0	0	-25
sum	886	313	84	1283	739	5819	161	6718	8001	1669	5522	466	256	3426

Source: author's calculations

Table equation for the periodic budget constraints the new premise is as follows:

Table (9) budget constraint equation the government periodically

Description	thousand billion Rials
Net present value The current generation of payments	3426
Net present value Payments for future generations	555
sum	3981
Present value of government consumption	3625
Net financial assets	356
sum	3981

Source: author's calculations

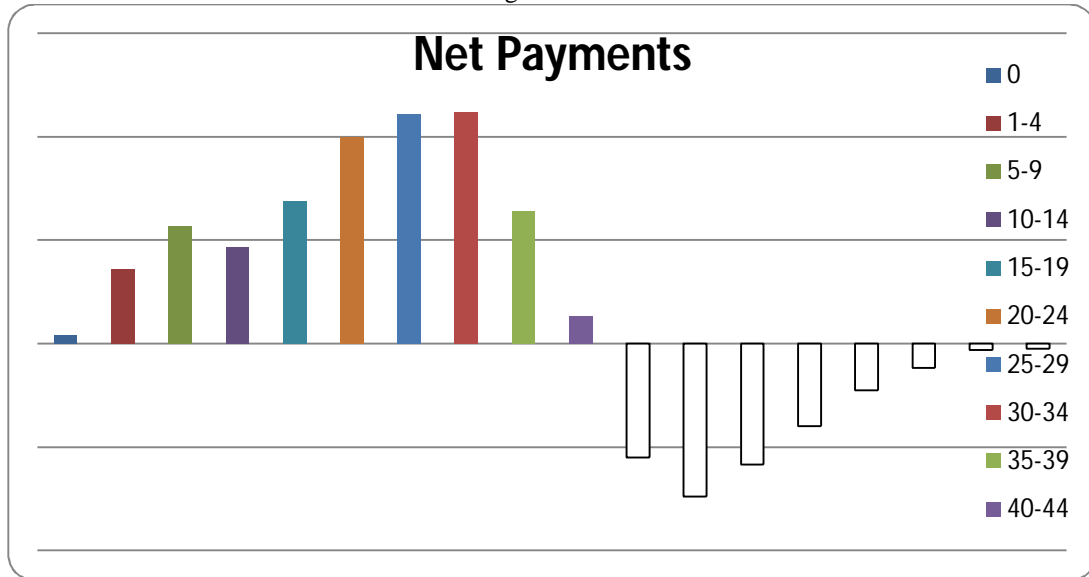
Chart of Accounts generation current and future generations with a new premise (education expenditures as transfers) again it is written:

Table generational accounts for present and future generations - 2009 (figures in thousand billion Rials)

Ageclasses	net
0	43
1-4	362
5-9	564
10-14	466
15-19	689
20-24	996
25-29	1108
30-34	1118
35-39	640
40-44	133
45-49	-551
50-54	-737
55-59	-585
60-64	-399
65-69	-226
70-74	-118
75-79	-29
80+	-25
Next Generation	555
Generational imbalance.	512
Percentage of generational imbalance	1179.17

Source: author's calculations

Generation chart of accounts the table is set that the age distribution net taxes on the show:



Graphs (2) generational accounts the current generation (in thousand billion Rials)

Just as be seen in recent stronger generational imbalance. and from 877 percent to 1179 Percentage of is reached. this means that the next generation of financial pressure. About 12 times the current generation is facing.

8 - Summary and conclusions:

This paper seeks to evaluation of treatment different generations from the perspective fiscal policy of the government. the recent global recession and financial crisis, Large fraction many budget there are countries and this the rapid increase in the debt ratio most countries have a GDP. from the perspective of economic theory, traditional way account deficit Cannot be responsible for the generation of pressure and an assessment of generation platforms offer. Interest in generational accounting with the rapid aging of the population in developed countries

and developing has grown during the last 10 years in many countries around the world. generational accounting is operational. Financial situation in state Iran, revenues from oil exports, production, consumption and accumulated reserves of oil, the dependence of the state budget oil revenues, The state pension fund, social security aging index population is require use of generational accounting system in the country to adopt shows the long-term policies. The results of the using generational accounting models showed in Iran considering base year data (2009) GDP growth rate 6 percent and a discount rate of 17 percent, a generational imbalance. a significant rate of 09/877 percent there. If education spending instead of government consumption spending, transfers are to be the disproportionate increase in generation and 17/1179 percent. this means that future generations offinancial pressures equivalent to to 12 times the current generation will face. according to this model, the government should fundamental changes in Fiscal Policy includes tax and pay - transitional and reform social security system and establish pension to balance generation be established in Iran.

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