Daily Tax
DRAFT

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PREFACE

As I have been quite long time Finnish citizen I have been seeing later development, what it does when preemptive support for peoples, families and children's heath, education and social care has been reduced year by year. Now lot of money goes to care serious results from this habit and grown average age. Worst thing here is that caring problems and re-enabling preemptive care with current system and existing maintenance ratio goes over budget if nothing else is done. And many peoples own budget has already failed partly because we as society has been allowed to sell out and therefore from local monopoles for electric delivery and significantly determinative market positions on rentable property, housing and apartments market. Besides these there are IT and goods logistic costs having external cream pealers groups on significant market position. These areas are used to squeez money out from our society, it's partly increased peoples support need, and this has been led to higher support during the years, support which is now teared down. Problem is that peoples are now left between profitmakers demands and subventions closing sosiety created realities. We could already say that shit has hit into fan. Overloaded, less paid healthcare workers are already escaping from profession area[50], medical institutions see declining amount of applicants to profession area courses[74]. Teachers comment seriously that if knew current situation on work market when started studies did not choosed to become a teacher. Etc.

How we came to this situation at 2023 ?

When looking national law making which does basement for Finnish

wellbeing society we need to note one bad habit we have. To maintain wellbeing society new laws are nearly always made as small tweaks to existing law by adding new law section, new on/off-rule or rules. After years of this kind of operation the result is awful for normal citizens. It is mess of ”on/off, on/off, if then else on/off,...” -rules. It’s nightmare for people having scarce resources and need for help. Especially people lacking good digital information search, bookkeeping and management capabilities is in really deep shit! Finnish nation has help-begging system for pen, paper and physical access -peoples, and for others[17], it’s resource consuming and inhumane. You are really pushed down before you can get anything, if even then[46]. Finnish mental health and suicide statistics tell the truth[85] from less performed peoples status. It’s quite raw statistics: about four times more suicides per year[36] than what dies at same time to traffic accidents[37]. According to world happiness report[73] happiest country is Finland. Happiness do not touch all citizens of Finland. Nation doesn’t really support peoples when they need help. To get help on time you have to be preemptive[34] by yourselves[81] and have some resources left[29]. Most peoples who really need help don’t be that level systematic, or have lost they touch, for reason or other. After loosing life control there are too many paid ”No”, ”Wait”, ”Fill this”, ”Forward to”, ”It takes a while”, ”Later”, ..., -naysayers, paid officials[31][46][70], or created automations, transfer the burden of proof[18] to the customer[17], and same time exploitation companies; private dept collection agency’s do they best to hook people[91] who had to have from 9.3[33] to 18.5€/d[30] for bigger problems and make profit while people is temporalily insolvent due delays in process, where quick quotation companies try also abuse, sell they money with 35%[16] average interest. This eas-

ily leads to personal backrupt, juridiciary[91] and National Enforcement Authority[28] even supports private collections agency to make profit[61], and results are really obvious, brutal – deeply not wellbeing peoples, eating psychoactive drugs[82] as daily bread[51][62]-[78][59]. When peoples finally get this "help" it's outdated, late[84], not informed and not to original problem but more for consequences [51][77][91] to fail fix the original problem.
Finnish society also thinks employee development always from current employer perspective. Which many times is wrong perspective, because need to development under existing employer service usually comes from need to change from current work to something other. And then it is "fifty-sixty" old versus new employer what is needed. Usually it's 100% of employee own need to develop itself to be relevant, capable to continue further on working life at current life and health situation[8]. It might be same employer's task, but as well it can be something else, other employer, third sector, entrepreneur, research,... what ever, but so that peoples can maintain they health and control to they own life. This is partly understood[55], but not fully[3][4].
Current system has these on/off -flaws which make peoples to be out of working life, working 0% or full 110% working life to be able to carry economic burden we have. There are not many good possibilities between these two choices. There should be whole variation of working life load levels here between these 0% and 110% really! And there isn't!

What we can do for this existing not so great legacy?

We can't really fully solve all these problems, but can give advice

how to empower peoples to care themselves more with less by reducing they mental, financial and physical resources load[30], giving them more control with less of operational cost. Solution is sliding 365 days window daily tax with tax curves (fittings, functions) depended on age, capable to deliver child benefit, study grant, basic income support, home care allowance, basic sick leave allowance, rehabilitation allowance, unemployed basic allowance, adult education benefit and housing allowance. Those are merged seamlessly into system behind the scenes into curves without any action needed, not setting any income traps for anyone. This setup guarantees some income every day, because benefits or "negative tax" is paid daily into account until period actual wage payment comes, which is taxed taking in the account already paid "negative tax" during the period day. And curve is designed so that every euro in income increase net income after tax. There will be less effective income traps from other support forms than before because of merging and directing correctly child's benefits to the child[72]. Parent, caretaker only manages these for the child.

Current government want to get more with less. Automatically delivered basic support suits well to social security reform[79] project start time and government saving targets[4]. Automated delivery trustfulness, timely accuracy, without locking, is more and more meaningful, when paid sums purchasing power is going to decline, be smaller than before. Therefore basic monetary support delivery has to be automated whitout any human factors in it, to get it delivered correctly on time without delays!

Actual document goes guite straightly to proposal details, checks existing renoval and other documentation material then does corrections to proposal, generalizes and extends it towards more straight

automated solution, then finally is existing implementation documentation looked and commented a bit.

Booklet meaning is to raise debate from existing digitized tax, etc. process digitalization ;-). Hopefully you get some ideas from here for life, or for your further professional life discussons!

Sincerely yours, Ari Potkonen

Online: `http://github.com/apotkonen/dailytax` [68]
`https://raw.githubusercontent.com/apotkonen/dailytax/main/dailytax.pdf`

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LOGO's:
Daily Tax™ or DTax™ and DTax™-simple

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MARKS

Mark	Explanation	Unit
a	Age	d
b	Base number to select	1
c	Coefficient to select for income period	€
d	Daily allowance, "negative tax"	€
e	Euler's number $e = \sum_{i=0}^{\infty} \frac{1}{i!} \approx 2.718281828459045...$	1
$f()$	Fitting function	1
I	Income net, I_s including social support	€
i	Income gross, i_d daily, i_y yearly	€
Δi	Income change	€
l	Low income tax upper limit	1
m	Maximum tax, human politicians set limit	1
$m()$	Marginal tax, math based to fitting used	1
n	Nominal GDB per capita per day	€
r	Consumer price index ratio from consumer research	1
S_d	Support daily net value after tax	€
s_d	Support daily gross value	€
$s()$	Support as function of age in days	€
T	Tax amount in current, cash	€
T_d	Tax counting support as taxable	€
T_s	Tax including support as negative value	€
t	Tax coefficient, t_d daily, t_y yearly, $()$ func, t_m max	1
t_s	Tax social support adapted fitting	1
Δt	Tax change	€

Chapter 1

Theory

Existing yearly tax is function of person age a on taxation date and income i. To be encouraging and fair marginal tax should be continuous, smooth because it tell how much tax is taken if you earn anything more what you have already earned and any jumps on marginal tax cause motivation traps. It's good to notify that smoothness requirement is for predictable changes like income and age change. Sudden change, like taxation function change during season doesn't have similar smoothness requirement, because it's sudden and peoples can't do protective tax planning against it. Therefore this kind of sudden change do not set any motivation barriers at least at first time. Of course some municipality may have habit to play with possibility to change taxation, and does it frequently, it may cause some activities on peoples. Maximum tax percentage should also be limited due same reason. Besides tax you may have accept-

able reductions to income, and those are taken away from income before taxation. Social supporting income when person own income is too low for living is added to automated taxation process to avoid bureaucracy.

1.1 Tax function requirements

Here we have mathematical from definitions and requirements for tax function $t()$. Tax function parameters income i and age a. Tax function limits maximum tax m and low income tax limit l. Requirements from continuity and smooth behavior for fax function, it's derivative and for marginal tax. Equations 1.1 - 1.15.

$$a \in [0, 44000] \in \mathbb{N} \tag{1.1}$$

$$i \in [0, \infty) \in \mathbb{R}^+ \tag{1.2}$$

$$m \in [0.0, 1.0] \in \mathbb{R}^+ \; ; \; m \simeq 0.6 \tag{1.3}$$

$$l \in [0.0, m] \in \mathbb{R}^+ \; ; \; l \sim 0.0, 0.1 \tag{1.4}$$

$$t : \mathbb{N} \times \mathbb{R} \to [0, m] \in \mathbb{R}^+ \tag{1.5}$$

$$t(a, i) \leq m \; ; \; a, i \in \mathbb{R}^+ \tag{1.6}$$

$$\lim_{i \to 0} t(a, i) \leq l \tag{1.7}$$

$$\lim_{i \to \infty} t(a, i) = m \tag{1.8}$$

$$\lim_{i \to \infty} t'(a, i) = 0 \tag{1.9}$$

$$m(a, i) = \frac{\Delta t}{\Delta i} = t(a, i) + t'(a, i)i \tag{1.10}$$

$$\lim_{i \to \infty} m(a,i) \leq m \tag{1.11}$$

$$|i - i_0| < \delta \implies |t(a,i) - t(a,i_0)| < \epsilon \tag{1.12}$$

$$|i - i_0| < \delta \implies |t'(a,i) - t'(a,i_0)| < \epsilon \tag{1.13}$$

$$|i - i_0| < \delta \implies |m(a,i) - m(a,i_0)| < \epsilon \tag{1.14}$$

$$t(a,i_d) = t_d(a, i_y/365) = t_y(a,i_y) \tag{1.15}$$

1.2 Social perspective

Currently taxation is done yearly, and having filling and closing dates. Existing social support, monthly pays on everything and yearly taxation is requiring some prediction and planning capabilities from taxable person. Current digital economy part-time, zero agreement, jobs and other insecurities is too much for many peoples and they lose control from they life. There comes unsecured times without income and this stress peoples very much. Big part if person capacity goes to unproductive activities to save euro cents and beg money from society. Which activity alone increase cost and load even more for already troubled people. Therefore, taxation period should be shortened from year to one day. Social security support hast to be integrated into taxation system so that peoples can feel some security, stay concentrated, productive, develop itself and make better life. It doesn't mean that support should be big. It means that support has to be daily and guaranteed so that you have possibility to maintain yourselves. Someone may ask that is there any limit for this daily allowance "d" money distribution? Answer is that yes there is limit which limits possibility to have more support and still have smooth

taxing system. Upper limit for taxable support is nominal gross domestic product per capita "n" times marginal tax "m", and then tax is flat constant marginal tax for all, which is kind of mathematical limit, politically, psychologically for human acceptable limit is much less. These limits are highly country dependent, and therefore only some wide ranges given. Mathematically those are more like hints to check your calculations if going much under or over.

$$n \in (0, 1000) \in \mathbb{R}^+ \; ; \; n \simeq 130 \tag{1.16}$$

$$d \in [0, 600] \in \mathbb{R}^+ \; ; \; d \simeq 5, 10, 20 \leq n \tag{1.17}$$

$$s : [0, 44000] \in \mathbb{N} \rightarrow [0, 600] \in \mathbb{R}^+ \tag{1.18}$$

$$s(a) \leq d \leq mn \tag{1.19}$$

When we look existing law sections, those on off rules (LEX [24]), and combine social support $s(a)$ so that some small daily income can be guaranteed without any bureaucracy. For that we draw figure 1.1 on page 6 from existing lowest acceptable social support level (Social Security Committee [14] p.23 figure 3 and p.38 figure 5) and do several adjustments to get support work smoothly automated way without bureaucracy. Because child parents get basic allowance automatically we change child home care allowance to be child's own benefit combining child benefit and half of old home care benefit to be new child own home care benefit and set it on level of adult's basic allowance[72]. If counting together child's home care allowance and parents basic income support it's about on old parents home care support level, but automatically. Doing siblings in row will grow child home care allowance to level of old child home care allowance. Child home care allowance is full for one year and then

come to pure child benefit level at age three years. Child start to miss other children company between one and two and half years age, depending from siblings, and should be on day care at latest from three years old to grow social and get professional preschool training. From school age seven years child care is increased gradually to support child's enthusiasm recreation interests positive way by offering money for developing and caring hobby, same time keeping children away from headless streetdander which easily lead aimless child under outsiders' manipulation, abuse and exploitation - dreadful plunge spiral - which costs for child and nation are massive and should be avoided. This growing child care benefit is also replacing old multi child family increased child benefit automatically (ITLA [71]). When study obligation ends to maturity age than we should support growth and child moving to education site dormitory. Therefore study grant plus student housing benefit should be on level of basic income support, basic sick leave allowance, rehabilitation allowance and unemployed basic allowance which all are then combined together to form basic allowance for rest of your life. It's paid for all, day by day pieces and taxed away when your incomes grow on professional life. But it's there if you get sack or get old enough. Separate pay level insurances and pensions you have bought are then paid over that by insurance companies and those payments are taxable income as normal income.
Now when we have combined different old benefits from birth to death to one figure 1.1 on page 6 we also add about old level allowance for daily payment d and do fitting function equation 1.20 $s_d(a, d, r)$ so that consumer price index change ratio r can be taken into account automatically. This is important because support level is low for peoples in need and rapid changes in prices has to be taken

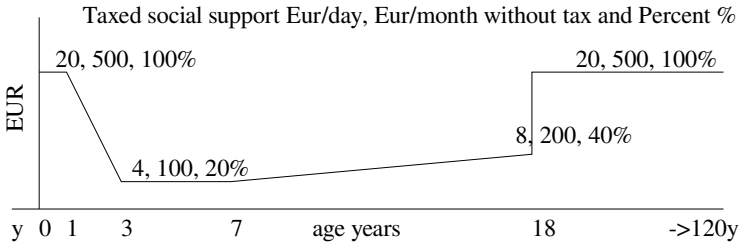

Figure 1.1: Social security support

in account automatically. National economy balance is then managed by managing tax fitting on fly. Equation 1.21 match to figure 1.1 on page 6 situation.

$$s_d(a,d,r) = \begin{cases} 1.0dr & ; & 0y & \leq a \leq & 1y \\ \frac{7y-2a}{y}0.2dr & ; & 1y & < a < & 3y \\ 0.2dr & ; & 3y & \leq a \leq & 7y \\ \frac{4y+a}{11y}0.2dr & ; & 7y & < a < & 18y \\ 1.0dr & ; & 18y & \leq a \leq & death \end{cases} \tag{1.20}$$

$$s_d(a,20,1) = \begin{cases} 20€ & ; & 0y & \leq a \leq & 1y \\ \frac{7y-2a}{y}4€ & ; & 1y & < a < & 3y \\ 4€ & ; & 3y & \leq a \leq & 7y \\ \frac{4y+a}{11y}4€ & ; & 7y & < a < & 18y \\ 20€ & ; & 18y & \leq a \leq & death \end{cases} \tag{1.21}$$

1.3 Tax function fitting

To get well adjustable taxation system we could and should use mathematical methods like series which are usually working well from zero to one range for fitted functions. Therefore, it would be good to use general tax fitting function f which is then scaled to range from zero to tax margin and income parameter is also scaled to match current currency value. This scaling makes easier adjust taxation to inflation changes using consumer price index and calculation period change from year to date. It would be good to add automatic consumer price index check into calculation system. So for fit function we have requirements on equations from 1.22 to 1.27.

$$f : \mathbb{N} \times \mathbb{R} \to [0, 1] \in \mathbb{R}^+ \tag{1.22}$$

$$\lim_{i \to 0} f(a, i) = 0 \tag{1.23}$$

$$\lim_{i \to \infty} f(a, i) = 1 \tag{1.24}$$

$$\lim_{i \to \infty} f'(a, i) = 0 \tag{1.25}$$

$$|i - i_0| < \delta \implies |f(a, i) - f(a, i_0)| < \epsilon \tag{1.26}$$

$$|i - i_0| < \delta \implies |f'(a, i) - f'(a, i_0)| < \epsilon \tag{1.27}$$

Because national tax office is anyway doing detailed tuning, like age dependency, we could just take something very simple function equation 1.28 to play with it as demonstration from fit function use equation 1.30 for tax. Fit function derivative equation 1.31 is needed for fit function marginal tax equation 1.10, 1.32.

$$f(i) = b^{-\frac{cr}{i}} \ ; \ b, c, i, r \in \mathbb{R}^+ \tag{1.28}$$

$$f'(i) = \frac{df}{di}\, b^{-\frac{cr}{i}} = b^{-\frac{cr}{i}} \frac{cr}{i^2} \ln(b) \tag{1.29}$$

$$f(a, i, m, c, r) = m b^{-\frac{cr}{i}} \; ; \; b > 1.0 \tag{1.30}$$

$$f'(a, i, m, c, r) = \left(\frac{cr}{i^2} \ln(b) \right) m b^{-\frac{cr}{i}} \tag{1.31}$$

$$m(a, i, m, c, r) = \left(\frac{cr}{i} \ln(b) + 1 \right) m b^{-\frac{cr}{i}} \tag{1.32}$$

Next we select coefficients; marginal tax m, income cash c on period you have m/b % tax, consumer price index ratio r for period, equations 1.34-1.35 and for fitted function marginal tax equation 1.32. Then figure 1.2 on page 9 is drawn to show results. As you can see marginal tax is quite smooth function and there are no motivation traps where additional earned money is practically taxed away. If we now add daily social support to this and tax it, then it basically adds net amount after marginal tax for everyone. To keep budged in balance on national level tax curve has to be buckled little up or marginal tax lifted a bit. Because marginal tax is about 60% already most obvious solution is to touch base number here in our demonstration fitting and figure 1.3 on page 10 show how fitting behaves when changing base coefficient.

$$t_m \in [0.0, 1.0] \in \mathbb{R}^+ \; ; \; t_m = m \simeq 0.6 \tag{1.33}$$

$$t_y(a, i_y) = f(a, b = e, i = i_y, m = 0.6, c = 30000, r = 1) \tag{1.34}$$

$$t_d(a, i_d) = f(a, b = e, i = i_d, m = 0.6, c = \frac{30000}{365}, r = 1) \tag{1.35}$$

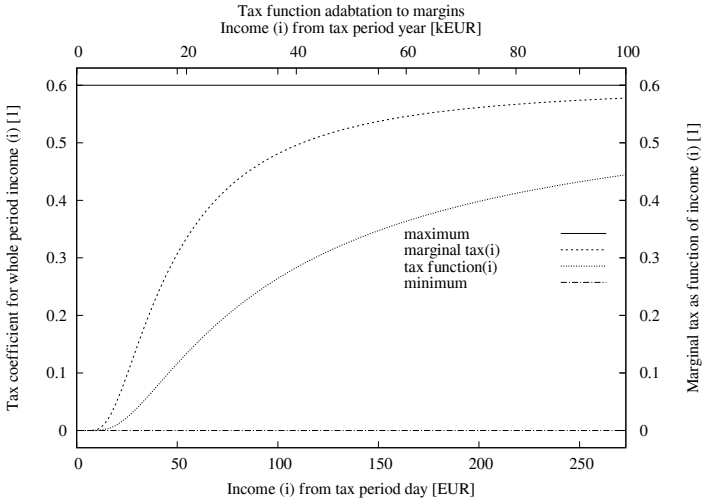

Figure 1.2: Tax function fit for daily tax

Next we use support daily gross value s_d and define equations 1.36 - 1.37; support daily net value after tax S_d, tax including support as negative tax value T_s, net income, including social support I_s, and tax counting daily support as taxable T_d. If using original tax in current, cash T equation 1.40 without taking in account support effect to reduce gathered tax amount and compensate it in tax equation then accumulated tax sum is smaller and cause problems. Therefore, tax fitting has to be adjusted to take support in account when daily

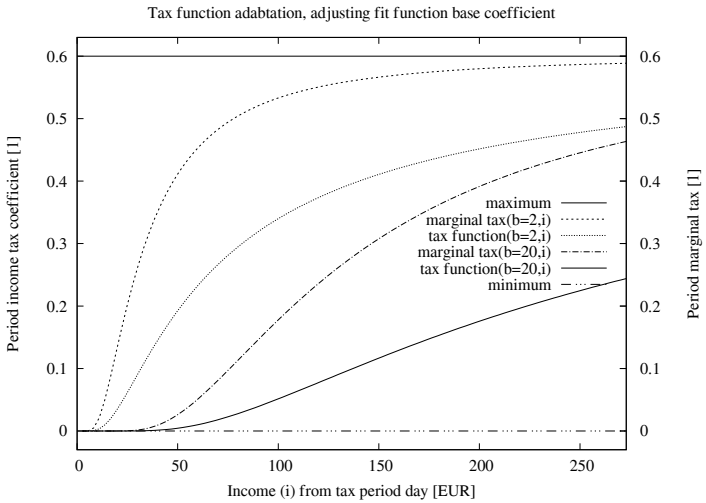

Figure 1.3: Tax fitting behavior when changing base coefficient

support is applied.

$$S_d(a, i_d) = s_d(a) + t_d(a, i_d)i_d - t_d(a, s_d(a) + i_d)(s_d(a) + i_d) \quad (1.36)$$

$$T_s(a, i_d) = t_d(a, s_d(a) + i_d)(s_d(a) + i_d) - s_d(a) \quad (1.37)$$

$$I_s(a, i_d) = (1 - t_d(a, s_d(a) + i_d))(s_d(a) + i_d) \quad (1.38)$$

$$T_d(a, i_d) = t_d(a, s_d(a) + i_d)(s_d(a) + i_d) \quad (1.39)$$

$$T(a, i_d) = t_d(a, i_d)i_d \quad (1.40)$$

1.4 Available statistics

In Finland most income and tax related things are public, at least in theory, if information acquirement cost in time, money and other resources is limitless you can get yearly income numbers form past years. In practice you have some statistics available for free, and about top 1000 individuals are listed on yellow press tabloids, web pages[66]. Electrically income data, even in obfuscated form, nor income distribution function details, are not available, at least I didn't found those. Available statistics are from "consumption units", including some interpretation from childs, young peoples as consumption units, not individuals[58]. Statistic already include income transfers, meaning that needed data from individuals is not availalable. Income statistics appendix on page 57 tell more from data acquisition.

Without correct data from individuals we only illustriate from "consumption units" aquired data, figure 1.4 on page 12 as kind of data needed from individuals to estimate, define possible cost neutral changes for taxation to create income transfers automation – and reduce costly unnecessary bureaucracy. Either original obfuscated data or accurate propability density function fitting for data is needed.

Even this 2021 unit density data after all corrections during years looks good now on 2023 and seems that nearly all has got more than daily basic social assistance $18.5€/d$[30] except students $9.3€/d$[33]; I again recall full working automation for basic income[10][5] because uncertainty is the worst thing for people having scare resources.

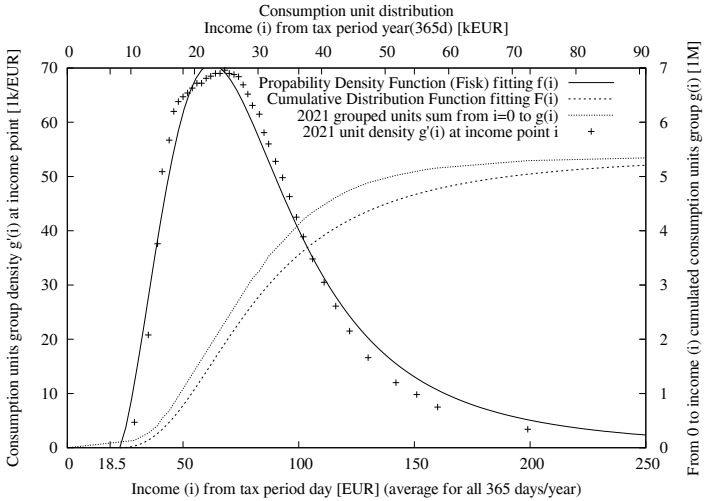

Figure 1.4: Consumption unit distribution

1.5 Cost neutral fitting

When doing changes to taxation, like taking daily support allowance in use, has taxation also adjusted to cope with new operating situation equation 1.41. That should be done using up-to-date history information from statistics and predictions from future including expected dynamic change. Here we do not know enough well even our domestic income distribution to calculate accurate fitting and com-

pensation. For demo purposes new base number value is estimated doing simple demo fitting taking into account social support so that net effect is zero. One usable possibility is to use known median income from last year as limit where given benefit and increased taxation is in balance. Other simpler possibility is set the balance to point where exponent is one at equation 1.44 and then needed math simplifies a bit.

$$t_d(a, b_2, (i_d + i_s))(i_d + i_s) \geq s_d(a) + t_d(a, b_1, i_d)(i_d) \tag{1.41}$$

$$(i_d + i_s)mb_2^{-\frac{cr}{i_d+i_s}} \geq i_s + (i_d)mb_1^{-\frac{cr}{i_d}} \;;\; b_{1,2} > 1.0 \tag{1.42}$$

$$b_2^{-\frac{cr}{i_d+i_s}} \geq \frac{i_s + (i_d)mb_1^{-\frac{cr}{i_d}}}{(i_d + i_s)m} \tag{1.43}$$

$$b_2 \leq \left(\frac{i_s + (i_d)mb_1^{-\frac{cr}{i_d}}}{(i_d + i_s)m} \right)^{-\frac{i_d+i_s}{cr}} \tag{1.44}$$

$$b_2 \leq \frac{crm}{i_s + (cr - i_s)mb_1^{-\frac{cr}{cr-i_s}}} \;;\; i_d + i_s = cr \tag{1.45}$$

$$b_2 \leq \left(\frac{b_1(i_s + cr)m}{b_1 i_s + crm} \right)^{\frac{cr+i_s}{cr}} \;;\; i_d = cr \tag{1.46}$$

$$i_s \leq \frac{(b_1 - 1)crm}{(1 - m)b_1} \;;\; i_d = cr,\, b_2 = 1 \tag{1.47}$$

Figure 1.5 on page 14 shows how from existing used taxation situation is changed to other compensated operation point when taking taxed daily social support in use. New base number b is selected

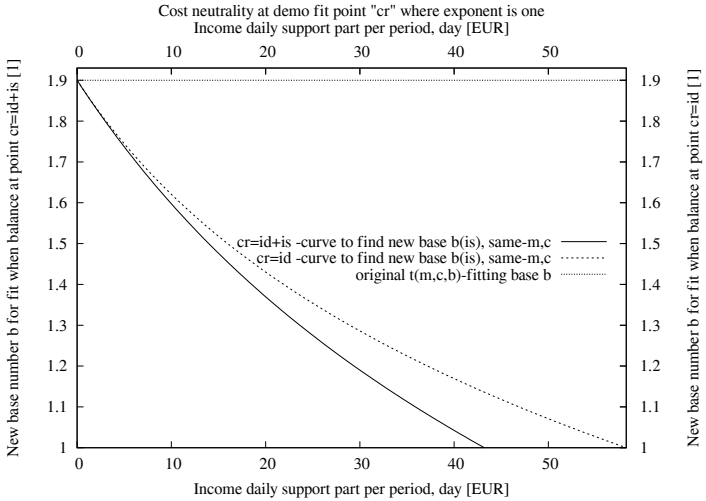

Figure 1.5: Base number chart from compensation

based to new daily support amount and decision where the balance point is set. To set balance over whole national income distribution requires some accurate knowledge from income distribution statistics, that is why some balance point is here selected for demonstration purposes.

Figure 1.6 on page 15 presents original tax and for new taxed social support balancing purposes elevated tax curve and marginal taxes for both situations. This balancing is done at point c which should

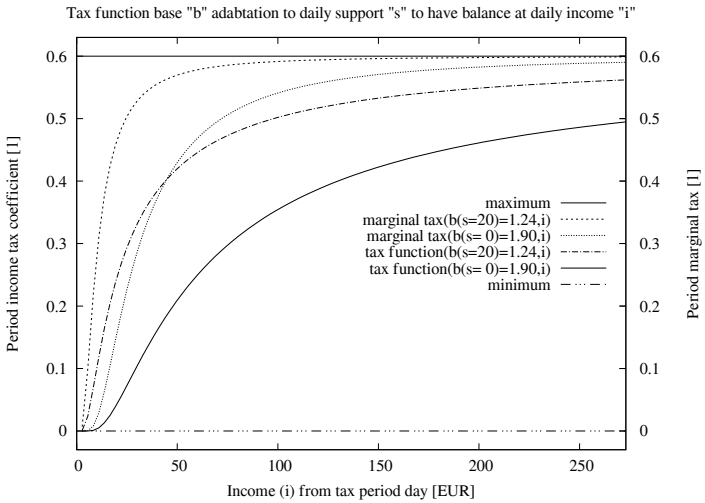

Figure 1.6: Original and compensated tax fitting

be defined based to whole population so that there are no overcompensation leading to unnecessary tax increase. Existing tax system leads to jumpy marginal tax, which should be avoided if possible, see Viitamäki[87] p.47 Figure 15, from similar fitting.
Figure 1.7 on page 17 show how nominal 20€ daily social support with zero income leaves about 15€ net support income to account. It represents negative -15€ tax at that same operation point. When you follow net support effect comparing to old curve then you notice

that soon when income grows support turns to negative even in new situation official net support is still positive. Take time to look this picture which brings together several terms in one picture. Terms like support, negative tax, positive tax, where those are on figure. You could compare to ministry of finance publication (Viitamäki[87] p.17 equation 1, 2 p.18 Figure 1). In today's computerized society it's just view and representation change when talking from support, citizen salary or negative tax. Anyhow, math methods and balance has to be there. With highly automated model implementation we get better life control for citizens and release few officials to do more productive work with humans, because computers can do this work much better and we have enough financial challenges already. You do not need any paid official there to do decisions do you need money for daily groats to eat or not in case of sudden personal bankruptcy.
Figure 1.8 on page 18 show example nominal, taxed net and distraint income values from combined basic allowance combining together; child benefit, child home care benefit, study grant, basic income support, basic sick leave allowance, rehabilitation allowance, unemployed basic allowance. Besides these basic allowance's citizen may have voluntary insurances paid separately over these basic social support allowances which will guarantee some support, no matter which is financial situation. For example if under ⅓ income distraint persons wage is already used, still every day paid support guarantees few euros on account every day.
To avoid from double effective marginal tax rate from housing benefit and from children daycare payment (Viitamäki[87] p.25 equation 2, p.54 Figure 22) we have to include housing benefit, child's part of it, into support of child's childhood years. Housing benefit, what families get from child, can be included into model by lifting child ben-

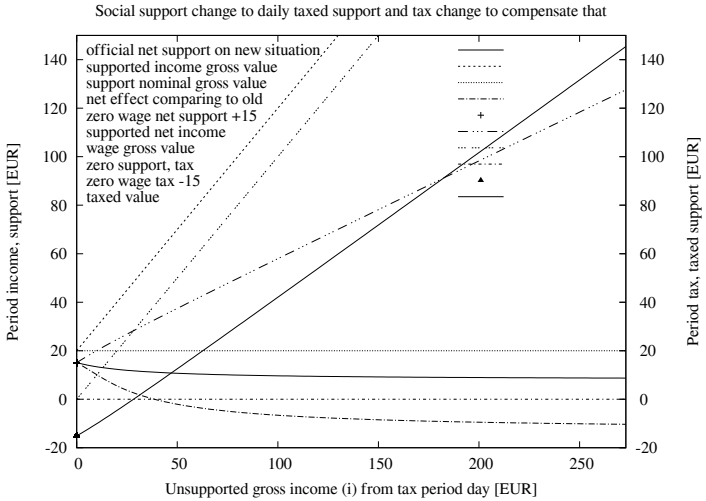

Figure 1.7: Social support and tax

efit years support levels up. Then bigger families bigger space need support come with the kids. Apparently merging housing benefit to child benefit here increase automation and reduce young families stress. Anyhow, birth rate in industrialized countries like European Union is low and soon firstborn parents are reaching infertility age, at 2019 EU average 29.4 years for first child and rising, there might not be any siblings coming therefore, and any failures on child early life affect to child and economy during whole lifetime, and therefore

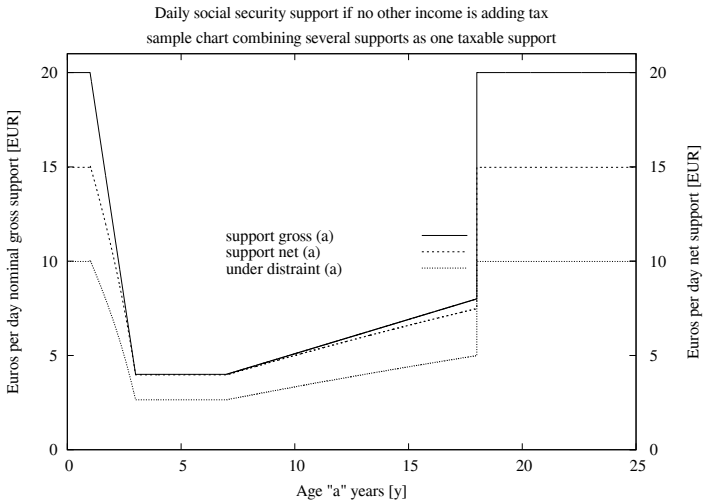

Figure 1.8: Social support gross and net value at zero income

it's reasonable to support young families to avoid possible problems at first phase. And that's reason why supported child daycare basic payment has to be added to child's own support. It also makes parents free to grow they own incomes by doing work, because parents income increase do not drop child's income (A-Talk[6], NCP questions[60]). This flat support is shown on figure 1.9 on page 19.
It's good to note that all these charts should be done as relative to whole nation statistics (Social Security Committee [14] p.39 figure

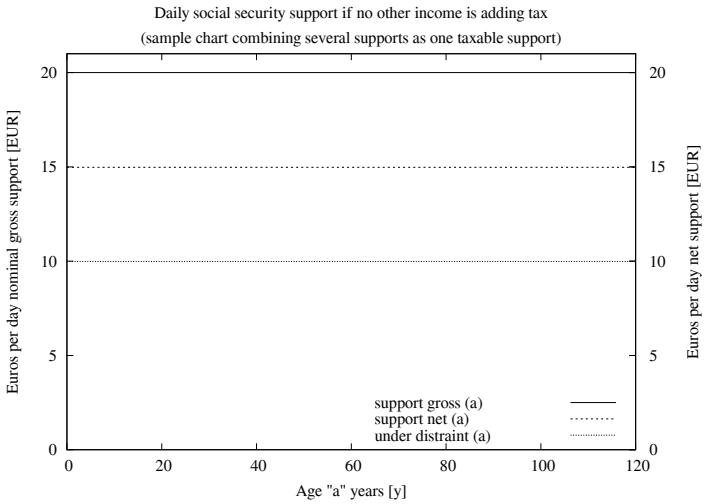

Figure 1.9: Support including childhood housing and daycare

6) so that dependency from currency can be removed. Then relative numbers better describe economy flows in time independent manner than some currency money values which are kind local snapshots from day situation, and soon outdated due inflation, price changes. All money values here are more or less guesses. This insufficiency is due limited visibility to current situation without existing compensation infomation embedded into statistics. Some idea you might get from these reference values; study grant $9.3€/d$ [33], social assitance

basic amount $18.5€/d$ [30], adult education allowance $22€/d$ [3], national pension $24€/d$ [32], guarantee pension $31€/d$ [64], minimum wage $42€/d$ [35], a decent life in province $38€/d$, in a university town $42€/d$, in the capitol $50€/d$, in the capital region $52€/d$ [83]. The Central Organisation of Finnish Trade Unions (SAK) President Jarkko Eloranta propose minimum wage $13€/h$ at HS interview[80]. That is about $63€/d$ when divided to all 365 days in year. Current estimation is that lowest income tenciles will get even less in future. Government Prime Minister commented [75] estimations from different citizens income tenciles behaviour after govenment program has been implemented. Government proposal 73/2023[40] part time job $31€/d$ and for full time job $37.8€/d$ is minimum, starting from 2024/9/2.

1.6 Empathy test

If someone has arrogance[13], attitude problems against basic support delivery automation; I suggest that spouse could arrange special "Empathy-Exercise-Test" for conclusions, and silently drop all e-invoice agreements before holiday, then looking partner's behavior when first for thirdparty sold invoice claims arrive about on due day with elevated price, missing, poor or obfuscated references to original bills, and that all having only purpose to get most out from the case. Even having enough money to easily close all cases without checking that all claims are correct without duplicates or unnecessary payments included, it's still shitload of extra work, you didn't needed nor wanted. Then is good time to ask the test question; How do you think someone will survive if they only have money

for original bills? If answer is pure nonwritable from own-personal-situation, then there isn't enough empathy, and it's time for conlusions, but at least "Test"-person may be able to catch some feelings what peoples really feel when needing basic support[2] and have this kind of situation after each hickup in system[43][76]. Currently there are peoples involved, which means that "It kind of works."[42], but not on time[29] as it should, which seriously increase cost and causes. Therefore FULL AUTOMATION for peoples BASIC ASSISTANCE daily delivery is needed! No matter do you call it: Basic Account[56], Basic Income, Citizen Wage, Freedom Dividend, Negative Tax[10], Universal Basic Income (UBI)[39] Universal Credit[86], or what ever, it has to work on time as a klock! If it doesn't, then overall monetary and social cost rise for individuals and for whole society.

Empathy test – By the way

When we are going into details of possible found arrogant, above oneself person, self intended "boss"/"leader"- case we really notice that it's not under powered citizens fault that he/she got problems. No. Actually it's mostly this arrogant persons fault[13]. How/Why? We can take practical example case; people without email and cellular phone[2] want to order service and want electric billing to avoid paper bill taken higher cost. Purchase agreement is done face by face with at the vendors office, but by the poor system design or slowness, vendor customer service sales person do not able to give or print customer billing information because they SAP implementation can't allocate reference number on sales situation, or configure

pre-allocated number, or use some known or agreed reference given directly for customer.
If vendor can't give or name billing reference at the sales situation it's not customers fault. Customer has right to get correct payment information and vendor has to deliver it freely afterwards and not to demand to take more expensive paper billing. Information including the reference needed at bank to automatically pay correct bills.
Without correct billing information bill comes, but it's already sold for thirdparty, which obviously has let the original billing reference out from they documentation and added 25 € to price. So, here is no delivery for information how to pay e-bill, and automated squeezing with elevated price bills has been started. This can be the start of personal bankruptcy for someone, unless he/she goes to same dealer claims billing reference or shuts down service if possible, it might be fixed length agreement. This is untolerable situation especially in country where personal bankruptcy [12] is not possible.
As summary: It is this arrocant, above oneself, persons fault, and he/she doesn't even understand nor willing to understand that they customer service and sales processess sucks badly[13] for customer[2]. Maybe he/she may even understand the situation but really do not care from situation, because from company perspective customer is hooked and payments run, due immediately from first bill for third party sold bills.

Empathy test – No understanding nor empathy, law update and enforcement needed

We have poor customer process automations in several companies, without any aim to fix this situatuation, which means that Electronic

Invoicing directive[25] and it's local law implementation[27] from government and corporate operator rights to get electronic billing for purchases has to be extended with oblications towards same organizations operation towards private individual customers. Private individual users has to have right to get electronic billing reference during agreement creation, so that he/she can go to bank enable e-invoice payments for company before first e-bill comes. Other option could be generating, immediately when they have needed information available, freely delivered paper note or "zero-bill" holding needed information for e-invoising setup on bank or delivery initial bill freely with the paper and then rest bills through e-incoice system. This has to be added as legal oblication to serve they own individual customers better, in practice as addition or amendmend to Electric Invoising Directive[25]. Same amendmend has to include statement from for forward sold bills refinancing companies obilcation to maintain all previous payment information including original e-billing references and reference chains visible in they billing, so that this refinance scavengers group do not get unearned increment into they incomes and this way foster too big counterproductive players group growth into our society, due into current digital time incomplete law making.

Chapter 2

Process

This document is mostly created from need to digitalize existing digitized processes; in practice meaning simplification and automation of processes into new digital environment. Taking into account possible optimizations from user experience perspective what can be done now using these digital technologies.

In practice we have to combine normal citizen income taxing and social support allowances to serve stability and safety for people most economically effective way as possible. It is worth to ponder how simple taxation, support and legal system could be if more elaborate models are used.

Really good thing here is that there has been government Enterprice Architecture (EA) running for a while, and we have some public documentation available to discuss from area.

It's really important that architecture, processesses and interfaces

are publicly defined. It makes possible to subcontract needed components from several vendors or from consortions offering bigger subintegrations for needed solution.

2.1 Income sources

Peoples have some personal income sources like; wage, pension, insurance, interest, dividend, rental, sale and/or social support income. Normally from these incomes have several details available; payer, withholding, paid, period start, end, payment date and place. Depending on from local laws these are taxed differently, and political processes are used to change these classifications to differently taxed incomes. It's good to ponder should these different income sources be combined together as one or should we keep those separate and maybe check does these income classes, event streams still using same daily taxation technology.

2.2 Interfaces and integration

Daily taxation needs; income account into some bank, and method to transfer details, from income along transaction or as separate data transaction. Here local government save income details into register. Same register can hold different income class event details, taxed differently due political reasons. For yearly cycled taxation this register solution is enough when employer or other income source does withhold tax before payment and then tax payment clearing, small corrections, are done yearly afterward. For daily tax there also has to have access to income bank account for taxman automatic taxation

process, because idea is to serve social support and continuity with this automated daily process.

2.3 Layering and geographic segmentation

Practical taxation process is quite different than what presented on simplistic theory chapter. This because there are different communities having taxation rights; municipality, religion communities, regional healthcare, state and union. Each of these have humanistic behaviors leading to solution where they have to be directly responsible to taxpayers. Even this responsibility is good it's already lead to segregation. From industrial areas around main roads or with sea connection and having migration win to remote agriculture and forestry periphery municipalities having migration loss. There are some improvements to this development like Green New Deal induced wind power, solar power and other similar investments bringing big property tax incomes for municipalities. Municipalities not yet got to new wind power or other improving investments are forced to take high income tax to maintain economy. South coastal cities have a lot of community incomes and cites along major logistic channels are also performing well. Few places are famous from high average income and low tax, which itself attract peoples having high income to manage elevated property prices on those places. Then there is small municipality having new wind power installation and attractive environment for holiday settlements has performed better than other agricultural forest areas. Technically it would be easiest to take taxes with same tax function fitting from all and then divide money for communities having taxation rights. Anyhow, this

could lead to situation where taxed money is overused and that way taxed money is kept on own municipality area. This leads to ineffective operation. New social security reform leads to province level taxation because this responsibility need and legislation to manage this situation even now province level taxes are taken along with national tax. Practice means that we have to have input parameters; social security support, income, age, municipality, community, national (province, state, union) and consumer price index ratio for tax fitting function definition. Most likely there has to be several tax fittings for different parameter combinations.
Figure 2.1 on page 29 shows municipality tax fitting, which margin is around 10%. Figure 2.2 on page 30 replaces stepwise governmental tax with fitting having margin just below 50%. You could compare to (Viitamäki[87] p.35 Figure 3). Figure 2.2 on page 30 show how municipality tax and government tax can be summed up to income tax still filling original requirements set for tax function.

2.4 Taxing process

Created taxing model is applied daily using past 365 days sliding tax clearing window. Process is repeated each day. Current yearly taxing practice means that you have responsibility to fill in; income, age, health insurance, unemployment insurance, pension insurance, municipality tax, community tax, state (radio, province, state, union) events in even this in normally near fully automated process so that employer and tax officials feed this information in. In new daily process this automaton is taken further. Income from certain period is distributed over period days and taxed daily. This is done

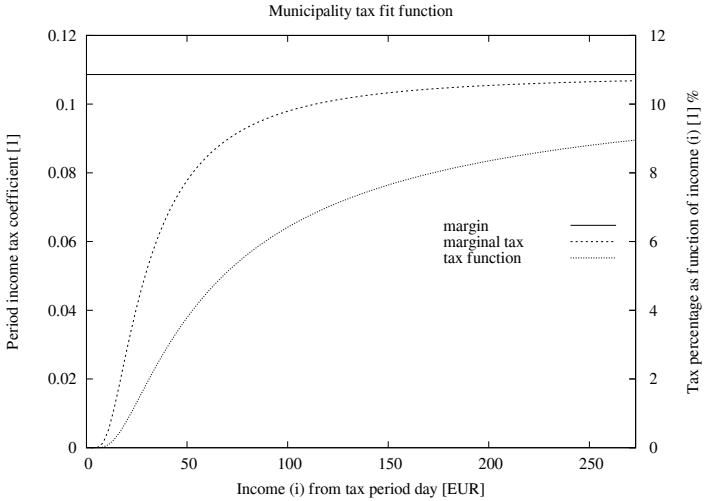

Figure 2.1: Municipality tax

automatically even information completeness responsibility is still on taxpayer's side. New normal taxation figure 2.4 on page 32 show that you have possibility to feed in income, reduction and other tax related events in from last 365 days period, automatic calculation updates situation daily. Figure shows only work income event handling, but same system is used for all taxation relevant events person encounters. Older and than 365 events are cleared like if you have forgotten to do. Big lump sums developed beyond that 365 days limit,

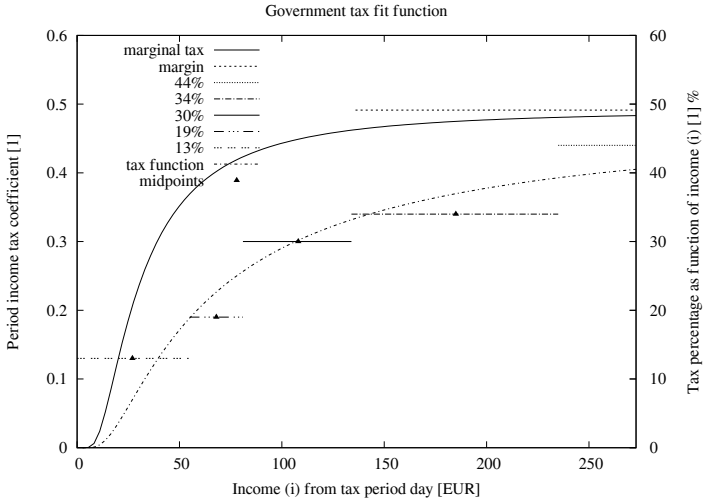

Figure 2.2: Government tax

for example from longer period work could be divided to further 1095 days and withholding is done against existing known tax functions, then fixed daily with latest uptodate tax information day by day. If tax function is changed for higher tax and consumer price index, inflation corrected withholding is not enough to fill that gap, then is risk is that without any other income than daily support there could be tax debt cumulating, still citizen should get ⅔ from net support even under tax dept distraint, see figure 1.8 on page 18.

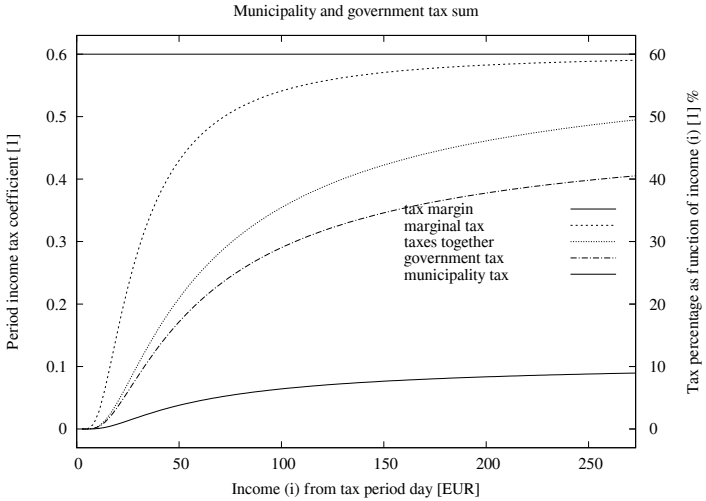

Figure 2.3: Municipality and government tax sum

2.5 Calculation complexity

Because for taxation we already have working setup, it's easy to do coarse comparison to existing setup and estimate roughly how many times more faster computing is needed if changed from yearly tax to daily tax, which require at least 365 times faster computing rate R, to perform.

Day tax computing process does taxation for every day and divides

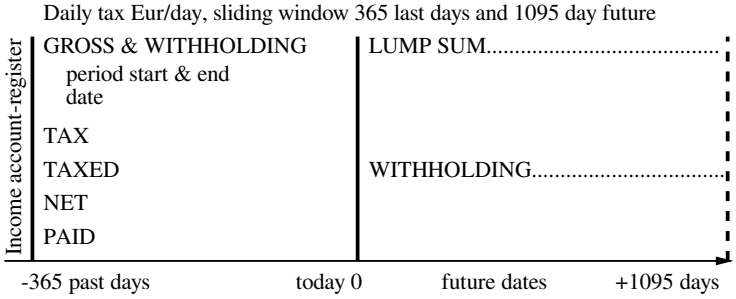

Figure 2.4: Sliding 365 days window daily tax

each income event given sums to income period days, calculating correct sums for those days. So at average every day is gone through twice and one day peak load is normal workers income event day when average 30+1, or peak 31+1, times capasity is needed.

If we take tax administration year 1990[7] as reference, when taxes computer calculation get done about at one year with calculation capasity existed. Then estimating computing power change with inverse of Koomey's law[53][21][65] equation 2.1 on page 32 to estimate when tax administration has possibility to 32x365=11680 times higher computing rate comparing to 1990, to manage payday computing need for daily tax.

$$K(\Delta t) = 2^{(\frac{\Delta t}{1.57_y})} = 2^{((t_2 - t_1)/1.57_y)} = \frac{R_{t_2}}{R_{t_1}} \tag{2.1}$$

$$K^{-1}\left(\frac{R_{t_2}}{R_{t_1}}\right) = 1.57_y \log_2\left(\frac{R_{t_2}}{R_{t_1}}\right) = t_2 - t_1 = \Delta t \tag{2.2}$$

$$t_1 + 1.57_y \log_2\left(\frac{R_{t_2}}{R_{t_1}}\right) = t_2 \tag{2.3}$$

$$\begin{aligned} 1990 + 1.57_y \log_2(\ \ 2 \ \times\ 365\ \ ) &= 2005 \\ 1990 + 1.57_y \log_2(\ 32 \ \times\ 365\ \ ) &= 2011 \\ 1990 + 1.57_y \log_2(\ \ 4 \ \times\ 365^2\ ) &= 2020 \\ 1990 + 1.57_y \log_2(\ \ 6 \ \times\ 365^2\ ) &= 2021 \end{aligned} \tag{2.4}$$

And then estimating worst case scanarions from migration. Worst is when there come lump sum divided to next three years and taxation correction for past tax during same day. Estimating, correction may affect max three years back and lump sum three years forward resulting to max 6x365=2190 times existing calculation load at one day for this persons data. It in worst case every person have same problem then 2190x365 more computing power is needed comparing to year 1990 to do fixes during an day-24h. When checking time with Inverse Koomeys law 2.2 on page 33, we notice that we have about now capasity to change daily taxation and tolerate all hiccups about on time a day. Koomey's law has slowed down a bit, but get worst scanario can be migitated by doing batch works so that all possible fixations for old taxation are not done at once. And after migration time there should be corrections only to last 365 days resulting worst case be then 4x365=1460 times existing yearly load for one person one day calculation.

On average is two times more calculation resources is needed in an day than normal yearly tax needs on year. Normal case is to have 31 times peak loads, and extreme rare case single user processing may take up to 1460 or 2190 times what normally needed for one year taxes calculation.
Storage need could be estimated to be about 10 doubles – 80 bytes per day for storing sums. It is 175kB per user and one terabyte 1TB for 5.5M users, not including userdata holding addresses etc. which add some gigabytes GB over that.

2.6 Legal complexity

As we have seen this daily tax is doable from information technology performance perspective. Totally other thing is to get this done from national legal legacy perspective. Of course existing yearly tax fixed reporting dates can be done by adjusting sliding window (fig:2.4 p.32) size and doing summary tasks for certain dates.
Still, most biggest blocker for the sliding window daily tax usage is our legal legacy habbits which are like patchwork quilt and natural process to move patches from end to another and perhaps replace some worn patches with few new even smaller ones. Result is still same length patchwork, but now with even more mixed and distressing experience than before.

Chapter 3

Implementation

Implementation depends on from solution purpose. For demonstration simple solution without any availability and security requirements is enough as long basic operations can be done. National solution level there are a lot of development needs from model itself and from possible other integrations not seen here. Implementation is most likely embedded into existing systems besides operation ones. So it would be possible to run new process besides old with correct current data. Hopefully this more automatic, less bureaucratic system implementation is started this time [10][56][5][86][39]. Global solution needs serious planning from process and possible other tax areas and toll processes maybe wanted to bring together into new ”global rolling tax day” -perspective created solution family, capable to handle value added tax, even scaled to astronomical level [57]. Maybe too premature idea here, but still good keep in mind while

planning different stages implementation so that don't set up any showstoppers for further development on celestial scale, including at least near orbit's, Moon and Mars.

3.1 Initial situation

This is simplified model from existing income tax, where there are three register keepers, municipalities and state government having taxing rights. Province and union taxes are embedded into state tax. Taxation happens semi-automatically at once of year. System is rigid, inflexible and usually cause uncertainty to peoples economic situation, specially at autumn near year-end. Every corrective adjustment needs extra activity, which is exhaustive if you are already in tight unexpected financial position due reason or other. Figure 3.1 on page 37. Tax administration has some idea from needed change [22], but as long as it is based to fixed tax period year, it still has tax period edge effect we should avoid. Needed laws changes take long and therefore we has to have much more proactive technososioeconomic optimized vision from future.

3.2 Theory part speculations

There are old income tax tables fed into system, province tax is separated from state tax, and created possibility to separate union taxes. Community tax, besides municipal taxes, as they are under FinLex. This configuration makes possible to play, compare old and new solutions. Still lacking statistics or proper distribution form, which can be used to determine balance point for given social support. Any-

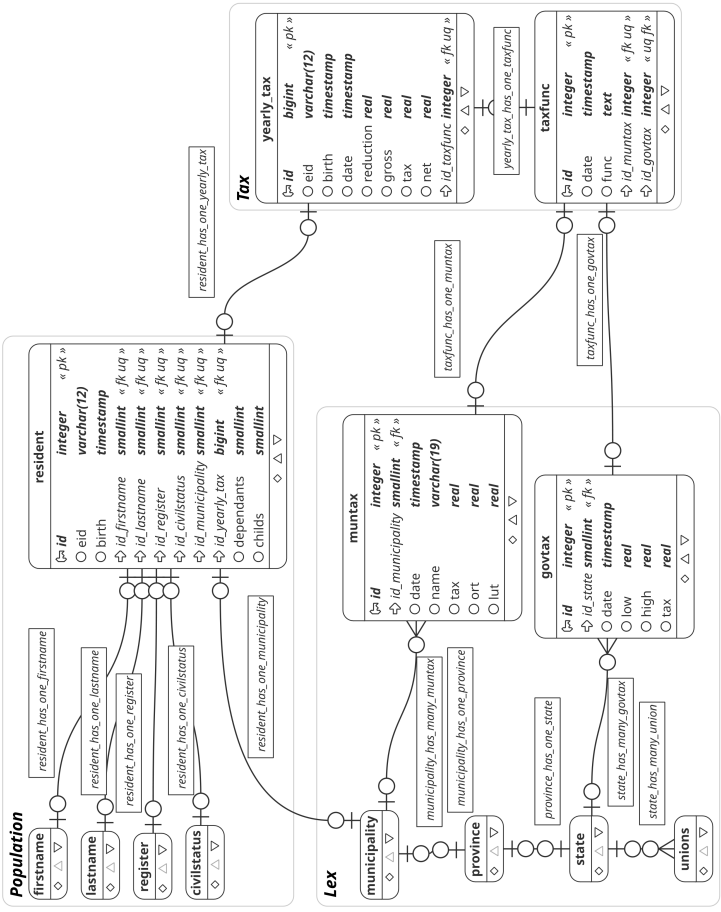

Figure 3.1: Initial situation with yearly tax

how, usable to play with when initialized, fed with the law given values. Figure 3.2 on page 39.

3.3 Demonstration

Target state is presented on figure 3.3 at page 40. It will be able to handle income tax and other taxes too. Resolution time is below two days globally. Mostly clearing can be done during 24 hours at latest during next 48 hours for global transactions.
TBD (To Be Done) maybe.

3.4 National version

Someone has to do this! There is automatic withholding percentage correction proposal for the yearly tax, which is better than nothing, but not enough. Tax legislation and tax system has to be changed, improved.

3.5 Global version

Maybe some day if financed?

3.6 Beyond taxation

This document has been concentrated to taxation and basic social support which can be integrated, automated with taxation. Besides this proposed highly automated basic social support with daily tax,

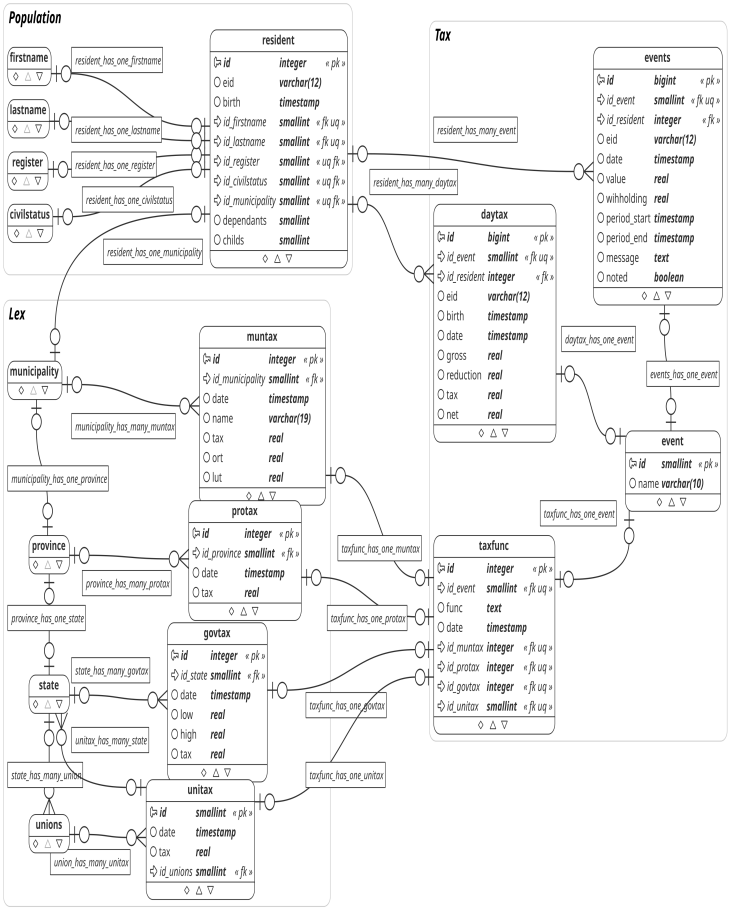

Figure 3.2: Theory part speculations between old and new

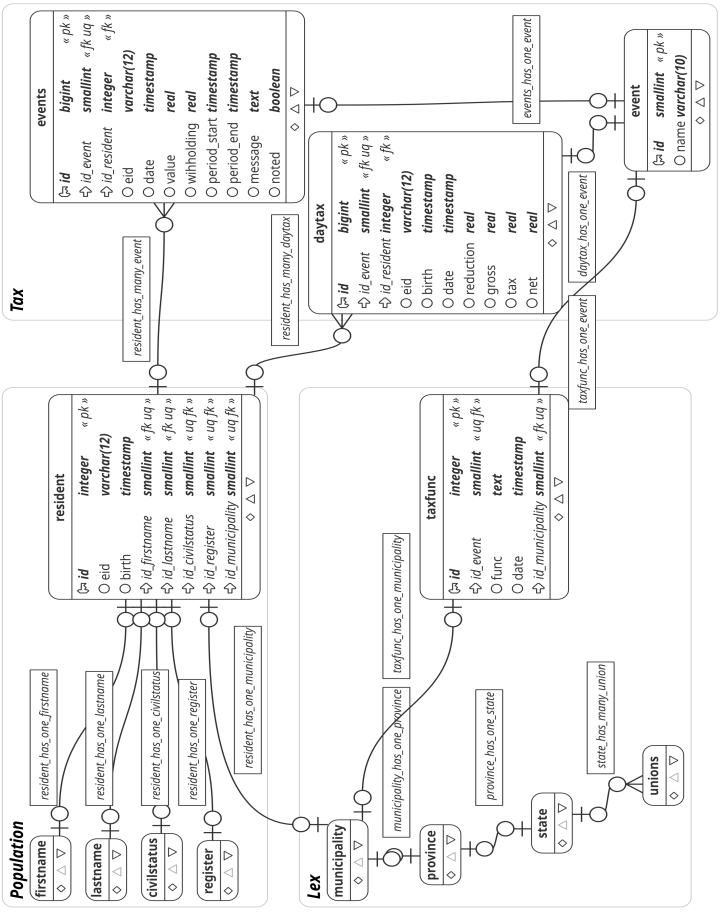

Figure 3.3: Demo DB Target situation for tax calculations

there are still lot need for discretionary support mostly due to ilness, disability etc. special reasons. In order to understand the problem field, we have to look a little at the model of the current setup and fastly changing situation we live in.

Existing architecture

In Finland the Digital and Population Data Services Agency (DVV) is kind of responsible from population data details and digitalization services generally, and they domain is "dvv.fi". Properties are registered under National Land Survey (NLS) services. Income register and taxation details are on tax domain "vero.fi". Social welfare and healthcare sector domain is "kanta.fi" holding patient data repository, diagnosis, prescriptions etc. Then there is the Social Insurance Institution of Finland (KELA), "kela.fi" domain paying in this document with the taxation automation proposed support and many other discretionary supports. When looking KELA from architecture documents [48], you clearly see that it's describing current situation. From Figure 3.1 Social and health information managment central players [49] you can notice that KELA's explicit role as social and health insurance company from customer financing perspective is left out, forgotten. Kela's roles are only mentioned on describing text.

This significantly affects to digitalized customer process planning, because so central player is only iplicitly visible, when thinking KELA's role as sosial and health financial services provider. Every person doing digitalized process planning has to notice this when dealing with KELA's roles and one is left out, during new digitalized service processes creation.

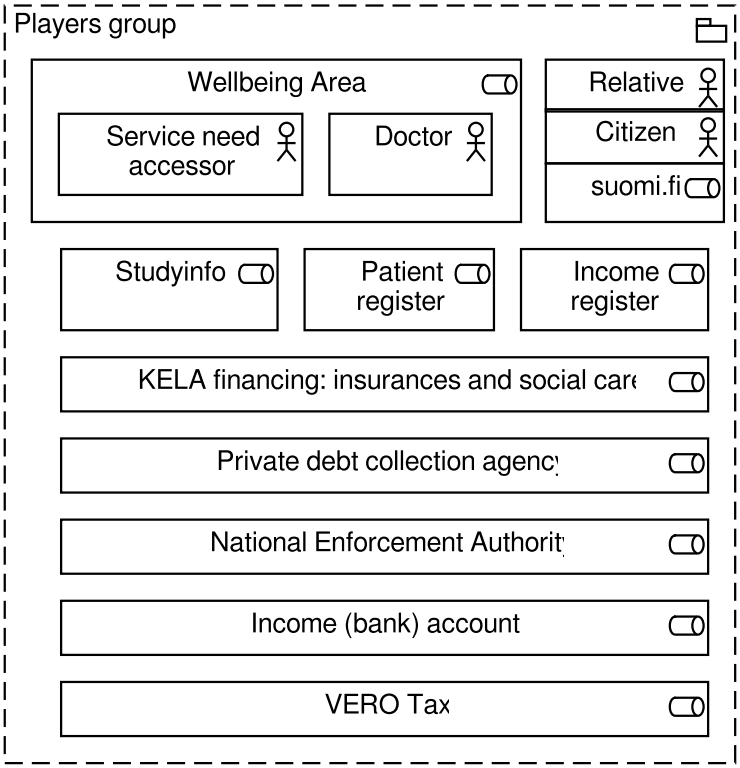

Figure 3.4: Players

Initial situation

Initial situation, today's baseline is where processes are mostly just digitized version from old pen, paper and physicall access versions from history behind thirty years. There are lot of processes which are not digitalized at all, meaning in practice overall technososioeconomical optimization, fully rewised, rewritten, simplified processes.

Practical examples

Elderly peoples example

When elderly people is under counties wellbeing services and assessment of the need is done by for this purpose named nurce or doctor. If home service need is detected, this detection has to be saved to medical records base "KANTA" and to be marked as possible cost/support affecting decision. Decision which could directly be used to same organization "Kela", the Social Insurance Institution of Finland managed costs reimburcements reasoning, at least with patien customer, this elder people, promise to allow sensitive information cross organization use like financing part from wellbeing services, pointed service provider services used. Reality is from last millenium for pen, paper and physical access citizens. They ask relatives, perhaps from different side of country to help with these things. Relatives first need computer, network connection, working printer to print papers, and then someone possible travels severel hundred kilometers carry laptop with, purchase printer from market and print those papers, fill those with elder people and post to Kela, which basically could then look decision details from Kanta, but no, they reply with mail that elder people has to deliver doctors

statement during next three weeks or request is cancelled. This paper then comes to elder people home, and when relatives come again in place during one month this three weeks is just passed and request is cancelled. In practice elder people has no access to medical records and not own paper copy either because demand to arrange service is not given as paper for elder people even requested to arrange support. So in practice relatives has to request time for doctor again and arrange again new trip over several hundred kilomenters to carry elder people to doctor to dig out decision from Kanta or do new one now with certificate on paper for Kela. See figure 3.5 on page 45. Yep, Kela does very effectively these decicions to neglect reasoned support, but is anyone checked process from elderly persons user experience perspective – so from Pen, Paper, Physical-access Peoples Perspective? This is severe wasting of overall resources available[69][52]. Kela has to have capability to check medical records from Kanta with the permisson of elder people given at initial request without asking older people and in practice hes relatives to arrange second evaluation for need what counties wellbeing services are already done! This is digized manual process, causing more load and delay than original process before computers utilized at all. Because all is done twice, first digitally and then manually, even decisions are done twice, first time to initiate service, and then again to get reasoned reimburcement. It doesn't help anything to use artificial intelligence[54] to replace human application decicion making, because the whole process is crippled, and currect artificial intelligence doesn't yet have rights nor intelligence to replace whole process yet. Therefore this process has to be digitalized so that done decisions are on Kanta and Kela's human (or artificial) intelligence is able to look decisions reasoning directly from there, at least with informa-

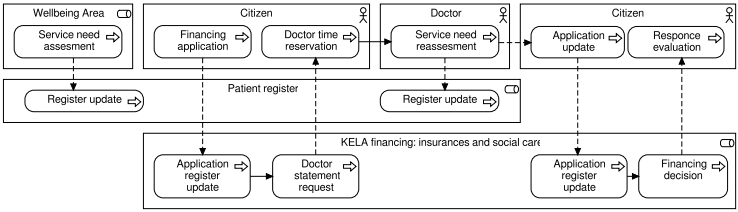

Figure 3.5: Burden of proof

tion owner given permission given in related suomi.fi-application from! Now form doesn't even include question from permission to look Kanta to see well being area records for decision[23].
See "Digitalized"-process figure 3.6 on page 46, how much less it uses resources when comparing to original "Burden of Proof"-process figure 3.5 on page 45, even lot of needed elderly people relatives helping effort is not drawn visible to process figure 3.5 [1]. Result is that peoples give up and do not get available financial support [69][52]-[17][67]... system just increase bureaugratic overhead. System hast to fixed or removed!

Passed people genealogy example

To sort out passed people things you has to have DVV report from family relationships, and you have to request DVV's fully digitally generated report from DVV by yourself during mourning, and lot of other changes due perhaps the 30€ price. Even governemnt will tax passed people assets transfer further anyway, and they mostly

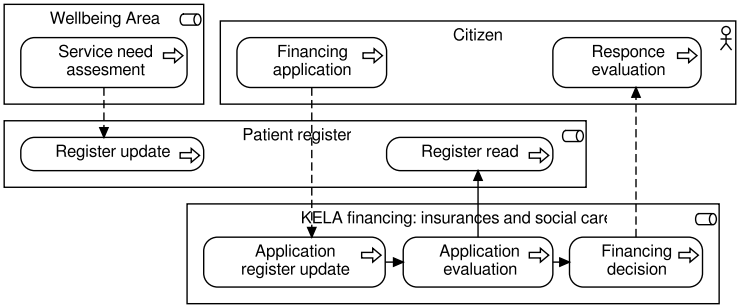

Figure 3.6: Digitalized process example

know due police and/or doctors created passing out infos and automatic generation should start immediately on DVV. Possible other registers, from curch books, could be initiated as well in most cases. Costs should be taken from inheritance tax and do this step automatically, transfer money later though budget what inheritance tax feeds. I hope that this improvement[41] will proceed.

Examples summary and some other findings

I am quite sure that if we check more these ”services” we find more and more direct digitization of old process without real digitalization. Every service I lately have personally touched has had these problems with the procesesses. This is national shame, at least should be [67][17][52]... And it has to be fixed, either by digitalizing processes from customer perspective or by merging and removing unnecessary

rules, payments.

Social Insurance Institution (SII) card Releated to social security insurance we get repeative request for the persons Social Insurnce Institution (SII) card ID ”SOTU”, even if you are used strong identification delivering personal identity code ”HETU” to log into system or shown identity card for personnell using fully to state services integrated systems. It’s frustrating finding from how base level issues are still not solved on our ”digitalized” service paths.
It tells that there is no interface nor integration or legal support to check; does person personal identy number ”HETU” have related social security insurance identity ”SOTU” at social insurance institution (SII). SII ”KELA” is the same organization delivering native insurences and the base ”KANTA” against most most systems are integrated to deliver information to e-perscriptions or epicrisis. Why don’t deliver social insurance existense status as well?
There is still some improvements needed between DVV and KELA application interfaces and integrations. For native Finnish citizen social security insurance identity number ”SOTU” is same than native personal identity number ”HETU”. Seem to be needless to ask does those services work with an Electronic Unique Identification Number ”SATU”, which would be better, more secure for the electric transactions, because it can be replaced on case of identity teft.

Standardized clinical operation description, metadata We have good start around KANTA-base, some existing working processes, some verbal process descriptions in practice. What is lacking is target process descriptions and descriptions from the next steps, step

by step through the service paths, use case by use case[23]. Localized common clinical data[44]; action, operation event common standardized descriptions are totally missing, from citizen perspective, it seems that there isn't much reasonable cooperation happening in the Finnish scene related to this. At least Finnish and Swedish language translations from european or global dataset are not visible publicitly as should be, if we want to have common standardized dataset used to define patient service paths, dividing actions and operations to most relevant place of welfare services area. This also improve possibility to use any other EU country services, or service from abroad, if they are cheaper, than locally available ones. Common metadata is allowing public and commercial service providers available resources and timeslots, most technososioeconomic way optimized resource allocation and use.

Common course description data through all levels Similarly we are lacking common structured course content, metadata and courses structural data for our education system [11] in country which population could fit to single city and which new generations are from year to year smaller than the previous ones.

Summary from education cooperation gaps Without the cooperation and standardization on healtcare and education leads to situation where same, or at least overlapping work, is done on several paid projects. As nation do we have enough wealth to pay from repeative, partly not needed, overlapping, frankly said; semiproductive tasks slowing the development down? Private parties do not complain because repeatition keeps they order book full. From

year to year smaller generations and broader study variations need clearly visible trend which will force units to close if reasonable cooperation and specialization is not done early enough.
In future it's more important that peoples can choose, cherry pick, part of courses to make things they are keen to develop. Peoples learning capasity is not grown so much that they can blindly learn everything, therefore creation of new success stories need wide education material and courses supply with possibility to cherry pick courses for they own ideas, dreams to come true, for real success stories at megatrends, eco-trends, space exploration and utilization.
We need reasoable size learning of old and then something new need to be combined. Whole package should be one person imaginable, understable.
We need cooperation and standardization on learning courses metadata and content to manage more with less and be productive doing new thigs with the saving benefits we got from cooperation.

Uneven load and reimbursement on public and private tracks of our healt care

There has been at least four decades continued chaining and centralization on private healthcare services side. It has brought good things, but same time it's brought also bad things because all employer financed employee helthcare services are well financed and mainly care basically health peoples. Peoples having serious health issues usually get sickness pension and drop over the health area health services. So health areas have more problematic customers who are scattered around large regional areas. Some communs have very high average age on areas in the middle of nowhere. Column

from Heikki Hiilamo [45] points clearly this during the years collected unbalance.
Solution is easy; All health services, including employer paid, are set to same line. Law is changed so that employer payment is take as part of company taxing and health areas having university hospitals are then arranging the services, by themself, with the other health areas, and by purchasing from existing competitive pricing capable service providers. Heikki Hiilamo pointed out bit more polaid taxing change[89] where employer health services are only changed to be taxed benefits, which makes public and private services more comparable related to financing and customers average heath situation on both user groups.
But even in this case there is no need for 25 separate health service areas, here including Finnish Student Health Services (FSHS/YTHS) and Åland Islands as additional healt areas besides the existing 23, which is much more than we have university hospitals (Helsinki, Tampere, Turku, Kuopio, Oulu) already having management structures, understanding from education resources and possibilities for new medical professionals training. Therefore national wide resourcing decisions are left for the university hospitals and Ministry of Social Affairs and Health. This should include evaluation for the overall need for these 25 health service areas. All 25 areas in this country which population equals to one big city!
It should be enough to do service optimization so that for service total cost includes customer resources use. In practice meaning that each hour customer has to use to get service is priced at least with the minimum wage or actual wage if being in work, and including all travel time, travel costs from door to door and back. With this kind of finacial evaluation we maintain reasonable near services, centralize

regional and national service socially and economically viable manner. By giving in middle of nowhere living person used time value by counting it as worktime we take human value in account [63].

In practice meaning that basic healtcare services are brought near by even there is only few customers, because calculation points it feasible when everyone's resource consumption is taken into account. Return of "own medical doctor model" is already proposed[90][88] and supported[47] to as solution for basic problems with the existing system. Own doctor model reduces the effects of poor integrations and processes in system, because same professional person use own memory and own local system which is there still between the visits, no matter does the data been delivered to kanta-base or not. Still data must be delivered to kanta-base for case of move or other need to get service at somewhere else where also access to persons stored health data, epicrisis is needed.

Target situation

All processes are gone through overall technososioeconomical optimization, fully rewised, rewritten, simplified processes, looked from both producer and customer perspectives when cheking overall technosocioeconomical optimization from national, european union, and in some cases from global perspective.

Thinking through the service paths, individuals organizations and processes along citizens service path. Special interest on standardization, removal of overlapping efforts and actual information flow, how it usually goes now;

digital(text) - paper(text) - digized(pixels) - digital(text) [26],

and how we can support citizen to do most with less, meaning that data goes from service provider to Kanta, or if it goes through citizens message services then receiving end should get it as text-data not as picture-pixels someone has to digitize by hand as work time process. If not any better methods found for filled forms then pure ASCII/ISO 8859-1 text-form would be enough good for the process because it can be filled and forwarded by citizen as well as healtcare worker etc., and it can be signed and forwarded electronically. Anyhow Kanta-base should be preferred and citizen could get message or paper copy to remember it.

Expectations

We have seen govenment enterprice architecture exercise, human centric artificial intelligence program and Finninsh municipalities association's good work around government and municipalities enterprice arhitecture. It's good to see human centric open govenmental digital architetecture activities. Public money – public code, public data – public service, public society – public architecture are good values to maintain cooperation and common wealth, because everybody's contribution can multiply common output and this way bring civil society efforts to common use, same time reducing overall cost and time what takes to get results and control position for democratically selected government from society's own digital service environment.

The fear is that human centric enterprice arhitecture development is done in project mode leaving results unmaintained. Enterprice

arhitecture management and development is CRITICAL SERVICE, not a project. Architecture all time evolving at least now when we live era of fast digitalization. We need current state, target state, gap and next development step visibility online to be up to date, and discussion from next steps ongoing for sub areas needing development work. It's really hard task to get needed human centric over the organizational limits happening process digitalization thinking going into practice in our silo-organizations sitting peoples heads. It requires from managment that they are capable to set up virtual teams over organizational limits on need bases. This has to be understood and approved on upper management levels, and we really need to get it going into execution on our practical day to day work.
Worst case is that we have not done our homework and some profitmaker makes promise to our politicians who do not understand, and during investement implementation vendor locking is created, valuable to whole invested money and more nearly as good as natural monopoly, and then this is monetized to profitmakers benefit and to our society's loss in form of oversized operation and further development investment expenses. And it's not first time our publically superviced natural monopoles are sold out for money making, so need to be aware.

Chapter 4

Afterwords

Child's right[9] is to have possibility to have childcare - infant school education, therefore basic daycare costs should be integrated to child's own support as well child's part from homing benefit has to be integrated to child's own benefit[72]. This significantly reduce effective marginal tax and parents stress because they can take work without drawbacks because parent income does not reduce child's benefit. This way daily tax remove barriers and encourage peoples to stay active, productive and give support immediately when needed without any bureaucracy.

When looking single adults without kids and any other income than included support, we notice that even daily tax guarantee some daily income, and reduce bureaucratic load, peoples are still very vulnerable situation to live with this level income. Possible problems like rapidly changed energy price for example, or from bad consumption

selections like using consumer credit which increase cost and rapidly leads to sold dept and dept collection by third party adding more extra cost over original dept. They deliver paper invoices during due date to mailboxes, automatically generating significant extra cost if not paid in hours. Therefore, there has to be legal mechanism to limit dept and it's collection costs to 120% from original dept, force collector use official electric messaging platform to reach peoples and have official log from they messages timing, besides paper invoices delivered on due date more or less purposefully. This legal limitation leads to situation where overall economy has meaning and it's not possible just to transfer extra business profit making costs over citizen. When limit is filled it's paid no matter how many claims are sent after that.

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Appendix A

Income statistics

In Finland some statistics are available at `http://stat.fi`. You can find income statistics from `http://stat.fi/tilasto/tjt`. There is a table ”11wh” – ”Income shares (%), means, medians and maximum values of decile and percentile groups, 1995-2021”. After editing your query, you can save it and actual query result. It's also possible to edit and repeat query from commandline in simplistic form using ”curl -d @query.json” or ”wget –post-file=query.json” from commandline.

From those available statistics we can get consumption units u grouped to fractile groups g, and when we sum up these fractiles we get number of consumption units[58] in population, which should be about the number of citizens in country.

$$\sum_{0\%}^{100\%} u = \sum_{0\%}^{5\%} u + \sum_{5\%}^{10\%} u + ... + \sum_{95\%}^{100\%} u = U \approx citizens \tag{A.1}$$

Besides the percentage limits of fractile group g these limits are also available on income $i_{u\%}$ -values from edge of each fractile, so we can define people group $g(i)$ size on each group edge where $i = i_{u\%}$ and median values also available from stats, and last top notch which is removed from statistics is available from gossib tabloids $i = i_{top}$.

$$g(i_{u0\%}, i_{u\%}) = \sum_{i=i_{u0\%}}^{i_{u\%}} u = \sum_{i_{u0\%}}^{i_{u5\%}} u + ... + \sum_{i_{u\%-5\%}}^{i_{u\%}} u \tag{A.2}$$

$$g(a, b) = \sum_{i=a}^{b} u \tag{A.3}$$

$$g(i) = g(0, i) \tag{A.4}$$

$$g(0, i_{top}) = U \approx citizens \tag{A.5}$$

$$P(a, b) = \frac{g(a, b)}{g(0, i_{top})} \tag{A.6}$$

$$P(i) = P(0, i) \tag{A.7}$$

$$P(i_{top}) = 1 \tag{A.8}$$

$$\frac{g(i_{u+2.5\%}) - g(i_{u\%})}{i_{u+2.5\%} - i_{u\%}} = \frac{\Delta g}{\Delta i} \tag{A.9}$$

$$\frac{\Delta g}{\Delta i} =_{\Delta i \to 0} g'(i) \tag{A.10}$$

$$p(\frac{i}{i_{top}}) = \frac{g'(i)}{g(0, i_{top})} \tag{A.11}$$

$$P(i_{top}) = \sum_{i=0}^{i_{top}} p(i) = 1 \tag{A.12}$$

$$P(i) = \int_{i=0}^{i} p(i) \tag{A.13}$$

$$P(\infty) = P(i_{top}) = 1 \tag{A.14}$$

$$P(0, \infty) = \int_{i=0}^{\infty} p(i) = 1 \tag{A.15}$$

From statistics is possible to get some information to try find suitable PDF (Propability Distribution Function) $f(i)$ to be fitted into collected $g'(i)$ points and respective CDF (Cumulative Density Function) F(i) to fit into $g(i)$ points. Suitable function candidates can be found based to experience or by using Python-Fitter and/or -Distfit-software to do Sum of Squared Errors (SSE) or Residual Sum of Squares (RSS). Log-logistic distribution[20] (Peter R. Fisk[38]) would be good starting point to look suitable distribution function.

$$PDF_{fisk}(i,\alpha,\beta) = \frac{(\beta/\alpha)(i/\alpha)^{(\beta-1)}}{(1+(i/\alpha)^{\beta})^2} \tag{A.16}$$

$$f(i;i_0,\alpha,\beta) = \alpha\frac{(\beta/\alpha)((i-i_0)/\alpha)^{(\beta-1)}}{(1+((i-i_0)/\alpha)^{\beta})^2} \tag{A.17}$$

$$CDF_{fisk}(i;\alpha,\beta) = \frac{1}{1+(i/\alpha)^{-\beta}} \tag{A.18}$$

$$F(i;i_0,\alpha,\beta,U) = \frac{U}{1+((i-i_0)/\alpha)^{-\beta}} \tag{A.19}$$

To be able to fill database for testing with the data, what known propability distribution represents, we could use inverse transform sampling from interval $(0,1]$. Given random numbers are interpreted as propability and mapped with inverse cumulative distribution to data points[19]. In this case it's also possible to sample consumption units group $g \in [1,U]$ size from one unit-person to number of citizens, and then do inverse transform with scaled cumulative distribution function CDF inversion $F^{-1}(g)$.

$$P(g;U) = \frac{g}{U} \in [1/U,1]\ ;\ g \leq U\ ;\ g,U \in \mathbb{N}^{+} \tag{A.20}$$

$$CDF^{-1}_{fisk}(P;\alpha,\beta) = i(P;\alpha,\beta) = \alpha\left(\frac{1}{P}-1\right)^{\beta} \tag{A.21}$$

$$F^{-1}(g;\alpha,\beta,U,i_0) = \alpha\left(\frac{U}{g}-1\right)^{\beta} + i_0 \tag{A.22}$$

Index

Daily tax
Back cover abstract

This booklet looks possibility to create and use 356 day sliding window taxation in real life as national income tax system. While daily tax can be negative, and allow daily income, it makes possible to think social security support new way. Temporary and zero hour work agreements are easier to accept with the daily tax because if you don't have income on certain period, then negative daily tax guarantee some small daily income amount to your account. This also helps students, pensioners etc. to take small jobs which increase they income but don't change they work life status or cause any hiccup with official agreements. It's also good for people having problems to get monthly payment divided so that there are some money left at the end of period before next payment. Daily tax process deliver some small amount to account on every day. When payment is arriving then income is divided to period and taxes are taken, but before next payment negative tax brings every day something into account. Again when payment comes, daily tax rise to positive and after tax is taken rest is left to account.