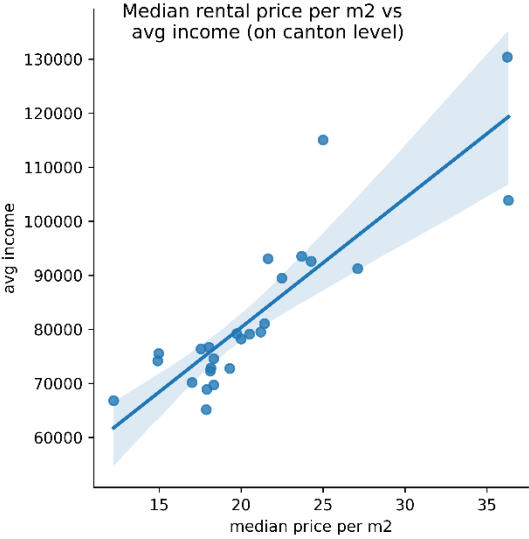
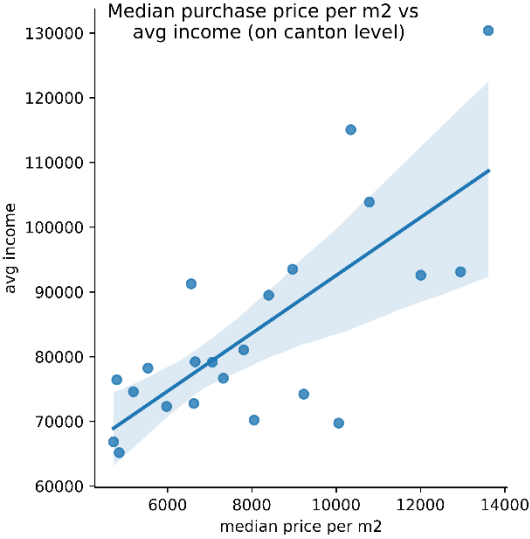


Real estate prices vs. income: Analysis for Swiss housing market in year 2021

Filip Maric, 11/2022

Rent	Purchase																																																																																																						
For which canton are the most real estate ads published online?																																																																																																							
<p>Ranking by number of rent advertisements per canton</p> <table border="1"> <thead> <tr> <th>Canton</th> <th>Number of advertisements</th> </tr> </thead> <tbody> <tr><td>BE</td><td>265</td></tr> <tr><td>SG</td><td>245</td></tr> <tr><td>AG</td><td>235</td></tr> <tr><td>ZH</td><td>225</td></tr> <tr><td>SO</td><td>215</td></tr> <tr><td>BL</td><td>205</td></tr> <tr><td>VD</td><td>195</td></tr> <tr><td>TG</td><td>185</td></tr> <tr><td>BS</td><td>175</td></tr> <tr><td>LU</td><td>165</td></tr> <tr><td>FR</td><td>155</td></tr> <tr><td>TI</td><td>145</td></tr> <tr><td>VS</td><td>135</td></tr> <tr><td>NE</td><td>125</td></tr> <tr><td>SH</td><td>115</td></tr> <tr><td>GE</td><td>105</td></tr> <tr><td>JU</td><td>95</td></tr> <tr><td>AR</td><td>85</td></tr> <tr><td>OW</td><td>75</td></tr> <tr><td>GR</td><td>65</td></tr> <tr><td>NW</td><td>55</td></tr> <tr><td>SZ</td><td>45</td></tr> <tr><td>GL</td><td>35</td></tr> <tr><td>AI</td><td>25</td></tr> <tr><td>UR</td><td>15</td></tr> <tr><td>ZG</td><td>10</td></tr> </tbody> </table>	Canton	Number of advertisements	BE	265	SG	245	AG	235	ZH	225	SO	215	BL	205	VD	195	TG	185	BS	175	LU	165	FR	155	TI	145	VS	135	NE	125	SH	115	GE	105	JU	95	AR	85	OW	75	GR	65	NW	55	SZ	45	GL	35	AI	25	UR	15	ZG	10	<p>Ranking by number of purchase advertisements per canton</p> <table border="1"> <thead> <tr> <th>Canton</th> <th>Number of advertisements</th> </tr> </thead> <tbody> <tr><td>TI</td><td>285</td></tr> <tr><td>VS</td><td>275</td></tr> <tr><td>VD</td><td>265</td></tr> <tr><td>UR</td><td>255</td></tr> <tr><td>SG</td><td>245</td></tr> <tr><td>AG</td><td>235</td></tr> <tr><td>ZH</td><td>225</td></tr> <tr><td>BL</td><td>215</td></tr> <tr><td>TG</td><td>205</td></tr> <tr><td>BS</td><td>195</td></tr> <tr><td>JU</td><td>185</td></tr> <tr><td>BE</td><td>175</td></tr> <tr><td>GE</td><td>165</td></tr> <tr><td>LU</td><td>155</td></tr> <tr><td>FR</td><td>145</td></tr> <tr><td>OW</td><td>135</td></tr> <tr><td>SO</td><td>125</td></tr> <tr><td>ZG</td><td>115</td></tr> <tr><td>NE</td><td>105</td></tr> <tr><td>GR</td><td>95</td></tr> <tr><td>SZ</td><td>85</td></tr> <tr><td>NW</td><td>75</td></tr> </tbody> </table>	Canton	Number of advertisements	TI	285	VS	275	VD	265	UR	255	SG	245	AG	235	ZH	225	BL	215	TG	205	BS	195	JU	185	BE	175	GE	165	LU	155	FR	145	OW	135	SO	125	ZG	115	NE	105	GR	95	SZ	85	NW	75		
Canton	Number of advertisements																																																																																																						
BE	265																																																																																																						
SG	245																																																																																																						
AG	235																																																																																																						
ZH	225																																																																																																						
SO	215																																																																																																						
BL	205																																																																																																						
VD	195																																																																																																						
TG	185																																																																																																						
BS	175																																																																																																						
LU	165																																																																																																						
FR	155																																																																																																						
TI	145																																																																																																						
VS	135																																																																																																						
NE	125																																																																																																						
SH	115																																																																																																						
GE	105																																																																																																						
JU	95																																																																																																						
AR	85																																																																																																						
OW	75																																																																																																						
GR	65																																																																																																						
NW	55																																																																																																						
SZ	45																																																																																																						
GL	35																																																																																																						
AI	25																																																																																																						
UR	15																																																																																																						
ZG	10																																																																																																						
Canton	Number of advertisements																																																																																																						
TI	285																																																																																																						
VS	275																																																																																																						
VD	265																																																																																																						
UR	255																																																																																																						
SG	245																																																																																																						
AG	235																																																																																																						
ZH	225																																																																																																						
BL	215																																																																																																						
TG	205																																																																																																						
BS	195																																																																																																						
JU	185																																																																																																						
BE	175																																																																																																						
GE	165																																																																																																						
LU	155																																																																																																						
FR	145																																																																																																						
OW	135																																																																																																						
SO	125																																																																																																						
ZG	115																																																																																																						
NE	105																																																																																																						
GR	95																																																																																																						
SZ	85																																																																																																						
NW	75																																																																																																						
In the used sample the canton of Bern has the most rent advertisings online.	In the used sample the canton of Ticino has the most purchase advertisings online.																																																																																																						
In which canton the median price per square meter is the highest compared to the income tax level?																																																																																																							
<p>Share of monthly income for median rental price/m2</p> <table border="1"> <thead> <tr> <th>Canton</th> <th>Share of monthly income [%]</th> </tr> </thead> <tbody> <tr><td>GE</td><td>0.38</td></tr> <tr><td>VD</td><td>0.36</td></tr> <tr><td>ZG</td><td>0.35</td></tr> <tr><td>VS</td><td>0.34</td></tr> <tr><td>AI</td><td>0.33</td></tr> <tr><td>BE</td><td>0.32</td></tr> <tr><td>OW</td><td>0.31</td></tr> <tr><td>UR</td><td>0.30</td></tr> <tr><td>BS</td><td>0.29</td></tr> <tr><td>GL</td><td>0.28</td></tr> <tr><td>AG</td><td>0.27</td></tr> <tr><td>LU</td><td>0.26</td></tr> <tr><td>ZH</td><td>0.25</td></tr> <tr><td>BL</td><td>0.24</td></tr> <tr><td>SG</td><td>0.23</td></tr> <tr><td>SH</td><td>0.22</td></tr> <tr><td>TI</td><td>0.21</td></tr> <tr><td>SO</td><td>0.20</td></tr> <tr><td>GR</td><td>0.19</td></tr> <tr><td>FR</td><td>0.18</td></tr> <tr><td>NW</td><td>0.17</td></tr> <tr><td>TG</td><td>0.16</td></tr> <tr><td>NE</td><td>0.15</td></tr> <tr><td>SZ</td><td>0.14</td></tr> <tr><td>AR</td><td>0.13</td></tr> <tr><td>JU</td><td>0.12</td></tr> </tbody> </table>	Canton	Share of monthly income [%]	GE	0.38	VD	0.36	ZG	0.35	VS	0.34	AI	0.33	BE	0.32	OW	0.31	UR	0.30	BS	0.29	GL	0.28	AG	0.27	LU	0.26	ZH	0.25	BL	0.24	SG	0.23	SH	0.22	TI	0.21	SO	0.20	GR	0.19	FR	0.18	NW	0.17	TG	0.16	NE	0.15	SZ	0.14	AR	0.13	JU	0.12	<p>Share of yearly income for median purchase price/m2</p> <table border="1"> <thead> <tr> <th>Canton</th> <th>Share of yearly income [%]</th> </tr> </thead> <tbody> <tr><td>UR</td><td>13.5</td></tr> <tr><td>NW</td><td>13.0</td></tr> <tr><td>BS</td><td>12.5</td></tr> <tr><td>VS</td><td>12.0</td></tr> <tr><td>NE</td><td>11.5</td></tr> <tr><td>GR</td><td>11.0</td></tr> <tr><td>ZG</td><td>10.5</td></tr> <tr><td>GE</td><td>10.0</td></tr> <tr><td>OW</td><td>9.5</td></tr> <tr><td>ZH</td><td>9.0</td></tr> <tr><td>FR</td><td>8.5</td></tr> <tr><td>BL</td><td>8.0</td></tr> <tr><td>BE</td><td>7.5</td></tr> <tr><td>SZ</td><td>7.0</td></tr> <tr><td>AG</td><td>6.5</td></tr> <tr><td>TI</td><td>6.0</td></tr> <tr><td>SG</td><td>5.5</td></tr> <tr><td>VS</td><td>5.0</td></tr> <tr><td>VD</td><td>4.5</td></tr> <tr><td>LU</td><td>4.0</td></tr> <tr><td>JU</td><td>3.5</td></tr> <tr><td>SO</td><td>3.0</td></tr> <tr><td>TG</td><td>2.5</td></tr> </tbody> </table>	Canton	Share of yearly income [%]	UR	13.5	NW	13.0	BS	12.5	VS	12.0	NE	11.5	GR	11.0	ZG	10.5	GE	10.0	OW	9.5	ZH	9.0	FR	8.5	BL	8.0	BE	7.5	SZ	7.0	AG	6.5	TI	6.0	SG	5.5	VS	5.0	VD	4.5	LU	4.0	JU	3.5	SO	3.0	TG	2.5
Canton	Share of monthly income [%]																																																																																																						
GE	0.38																																																																																																						
VD	0.36																																																																																																						
ZG	0.35																																																																																																						
VS	0.34																																																																																																						
AI	0.33																																																																																																						
BE	0.32																																																																																																						
OW	0.31																																																																																																						
UR	0.30																																																																																																						
BS	0.29																																																																																																						
GL	0.28																																																																																																						
AG	0.27																																																																																																						
LU	0.26																																																																																																						
ZH	0.25																																																																																																						
BL	0.24																																																																																																						
SG	0.23																																																																																																						
SH	0.22																																																																																																						
TI	0.21																																																																																																						
SO	0.20																																																																																																						
GR	0.19																																																																																																						
FR	0.18																																																																																																						
NW	0.17																																																																																																						
TG	0.16																																																																																																						
NE	0.15																																																																																																						
SZ	0.14																																																																																																						
AR	0.13																																																																																																						
JU	0.12																																																																																																						
Canton	Share of yearly income [%]																																																																																																						
UR	13.5																																																																																																						
NW	13.0																																																																																																						
BS	12.5																																																																																																						
VS	12.0																																																																																																						
NE	11.5																																																																																																						
GR	11.0																																																																																																						
ZG	10.5																																																																																																						
GE	10.0																																																																																																						
OW	9.5																																																																																																						
ZH	9.0																																																																																																						
FR	8.5																																																																																																						
BL	8.0																																																																																																						
BE	7.5																																																																																																						
SZ	7.0																																																																																																						
AG	6.5																																																																																																						
TI	6.0																																																																																																						
SG	5.5																																																																																																						
VS	5.0																																																																																																						
VD	4.5																																																																																																						
LU	4.0																																																																																																						
JU	3.5																																																																																																						
SO	3.0																																																																																																						
TG	2.5																																																																																																						
Based on the used sample people in canton of Geneva have to pay the highest rent per square meter compared to their monthly income.	Based on the used sample people in canton of Uri must pay the highest purchase price per square meter compared to their yearly income.																																																																																																						

Rent	Purchase
Is there any correlation between income tax level and the median price per square meter on canton level?	
	
There is a correlation between income tax level and median rent price per square. The R-value is 0.87.	There is a correlation between income tax level and median purchase price per square. But clearly there are some outliers. The R-value is 0.73.

Note: The used sample was scraped in the end of year 2021. Also, there is no guaranty, that it is representative for the whole real estate market due to limited web scraping capacities.