5 Outlook: Ethical guidance for Swiss Public Policy

This final section elaborates the findings of the ethical evaluation in the context of Switzerland and its public policy by providing an outlook to the future. It gives brief inputs with regard to the different topics elaborated above and how the ethical point of reference could help to inform.

5.1 Automation in Switzerland and suitable policy instruments from an ethical perspective

Given that the Swiss labor market is generally characterized by high salaries[1201]—that is, labor costs—the economy is likely to be under considerable pressure to automate work processes and reduce the employment of human labor. The discussion around automation in Switzerland has accelerated in response to the basic income initiative, which may be regarded as one of the policy approaches toward risk and likelihood of automation. In addition, the aging population represents a challenge in the context of labor and automation, as these socio-demographic shifts on the one hand call for more automation, since fewer individuals are part of the labor market, while on the other hand, there is greater need for work characterized by a "human touch", particularly in the caring domain, where an increasing number of elderly patients require services.

Employment types and required skills are expected to change substantially in Switzerland in the coming decade[1202]. In light of the country's aging population and comparatively slow productivity growth as a result of the already advanced economy, the productivity boost promised by automation technologies has been lauded as a step toward future economic growth. It is anticipated that one-fifth to one-quarter of work activities in Switzerland—representing approximately 1 to 1.2 million jobs—could be replaced by 2030. In addition, the pace of job change could double. Regarding the above estimate, whether it will accurately reflect the total number of job losses remains unclear. Correspondingly, 400,000 new jobs may be created, mainly in the technology sector, as companies implement digital solutions.

1201 BFS 2021
1202 McKinsey Global Institute 2018

The increase in jobs may be driven by real income growth that boosts consumption and raises demands for domestic employment. In general, the competitiveness of Switzerland's export-oriented economy is influencing the creation of new jobs and global digital leaders. Various sectors are affected differentially by automation. In that sense, jobs linked to exports either by supplying digital technologies or services may increase employment, as approximately 1.4 million jobs in Switzerland rely on exports—for example, in pharmaceuticals, machinery, financial services, and so on. Accordingly, it is important to reinvest in the economy to ensure inclusive growth where the productivity growth achieved through automation is converted into rising consumption, and investment and robust demand, opposing to the accumulation of wealth at the top. At this stage, no signs of declining labor shares are evident in terms of income or polarization of wages in the Swiss context, in contrast to the United States.

5.1.1 Manual labor

The manufacturing sector is expected to undergo substantial displacement of activities in Switzerland[1203]. Nevertheless, digitalization may create new jobs[1204], although close to half of all current existing positions are subject to automation by 2025. This would require that robust attention be invested in education and upskilling, since jobs stay in the industry but might change in nature. In addition, the so-called "reshoring" may lead to the development whereby companies that outsourced industrial activities return to Switzerland, as automation allows for remote control of machines and production, increasing the demand for industry labor in Switzerland[1205]. Nevertheless, reshoring primarily affects highly skilled labor, which is connected to process automation and digitalization[1206]. This may also affect the Swiss mining sector, which forms an important source of tax returns as domicile for various large mining corporations, although mining activities are not particularly common in the Swiss context. Nevertheless, in times of automation, mining activities will be increasingly conducted remotely. "Reshoring" appears to be increasingly connected to automation[1207], which

1203 McKinsey Global Institute 2018
1204 Hock 2016
1205 Handelszeitung 2018
1206 Beerli 2021
1207 Beerli 2021

may also be the case in Switzerland, if headquarters of mining businesses increase the number of individuals employed. Glencore, Switzerland's most notable mining company, represents the 17th-largest company in the *Fortune* global 500 List and employs 135,000 people worldwide[1208], with around 9,400 employees in Switzerland[1209].

In that regard, educational aspects are crucial for policy from an ethical perspective in ensuring that the impact of job availability in the context of reshoring is ensured, particularly for individuals who are part of the Swiss labor market. In that regard, individuals working in the industry may benefit from increased bodily health owing to the reduction in physical labor and work more in jobs that require senses, imagination, and thought.

In contrast to the high-tech development of the mining industry, the agricultural sector in Switzerland remains rather traditional and family-driven, which differs substantially in nature to the situation of the mining industry in Switzerland, particularly from a labor perspective. Digital technologies are still less commonly used in Switzerland than in other countries[1210] and are used primarily to monitor animals' behavior and attitudes. Milking robots are also increasingly utilized, as well as technologies designed to detect sicknesses. Farmers in Switzerland also launch separate business ventures, such as restaurants, rather than investing in digital technologies that could help them to optimize their production. Many farmers would like to receive more information regarding how to use new systems, and digital technologies would need to be part of this education. Although Switzerland's agricultural areas are relatively small, automation technologies may support the efficient distribution of fertilizers, for example to protect the environment.

The risk in Switzerland appears to be that smaller farmers may miss the deployment of new technologies or are unable to raise sufficient funding for investment in new technologies, which may lead to a stronger centralization of property and the agricultural areas[1211]. Automation in the Swiss context could also lead to bigger farms with larger herds[1212], while simultaneously employing fewer workers. A key aspect to be considered in traditional agriculture is the situation of women, who rely largely on the overall household or farm income, which is managed by their husband. In

1208 Murray 2021
1209 ZoomInfo 2022
1210 Freigang/Benz 2020
1211 Haldimann 2020
1212 Quendler et al. 2020: 63

this sense, their work, which might amount to even more than a full-time position in terms of hours worked, is unpaid.

From an ethical perspective, in the agricultural sector, automation requires guidelines in Switzerland to ensure nutritional safety in terms of the use of pesticides to limit harms to the environment and to farmers. In addition, price pressure on agricultural products must be monitored, as automation might exacerbate the existing political unrest among Swiss farmers, as in the case of milk prices. Automation may also yield benefits such as reduced working hours for farmers and other agricultural workers, the generation of more free time, and relief from life-threatening physical activities, provided that educational access is granted to workers to empower them to negotiate an increasingly automated working environment.

5.1.2 Automation of communication

The automation of communication is increasingly affecting the work performed by public relations and communication units of Switzerland's corporates[1213]. Marketing communication, for example, has already affected the nature of work, and it is anticipated that automation technologies will affect marketing to an even greater extent than social media. Moreover, personnel expenses are expected to decline, which represents a main aim for most companies using automation technologies in marketing or other communicative labor activities. There is a certain pressure in this area to reduce cost on the part of Swiss corporates. Nevertheless, a human element should always remain—for example, automated answers provided by a chatbot may be considered devastating if they appear overly "robotized".

The threats to political rights that automated journalism poses may apply to Switzerland if the technology behind the "creation of news" remains opaque. Nonetheless, the particularity of Swiss direct democracy and concordance system, which limits the power of individuals, also limits media influence. The stable political landscape has hitherto remained unsusceptible to visible impact, including social media influence. The active nature of Swiss citizens' political involvement, paired with the country's traditional "Stammtisch"-democracy, still enables human-to-human political opinion-building and expression of freedom of assembly and political speech. One particular example would be the fact that several municipalities, and even certain states, continue to rely on the physical presence of the citizen

1213 Kuenzli 2019

assembly in making political decisions. In this regard, from an ethical perspective, the threats of automation in communication appear to be less urgent than they are in other countries.

Also from a Swiss policy perspective, data protection continues to require close monitoring, including in relation to the unremunerated trade of private and personal data. For example, taxability of these incomes must be strengthened and technology restrictions applied to ensure that Swiss citizens are not exploited by US technology corporations, which apply all tax tricks possible.

The impact on children should also be closely monitored with respect to social media and the unremunerated work it incentivizes. The long-term impact of addictive screen time must also be further evaluated to ensure that the capability to emotional development is protected. These manipulations may also affect individuals' political education if political decision-making increasingly takes place in the virtual world as opposed to real-world discussions and exchanges.

5.1.3 Financial services

Switzerland's financial services sector is expected to undergo substantial displacement of activities[1214]. The banking sector traditionally employed a large number of individuals; however, with digitalization, financial institutions are seeking more efficient business models as clients increasingly handle bank transactions via the Internet[1215]. It is expected that there a cost pressure to automate routine work will emerge, accompanied by a blurring of company and industry boundaries and a flattening of hierarchies. Regarding job profiles, fields of activity and the competence profiles required for them will attain greater importance going forward, as bills, controlling and financial advisory will be subject to increasing automation[1216]. This will also likely increase performance pressure for remaining workers in the financial industry, as compliance orientation does not benefit workers with flexibility[1217].

Financial industry workers' fears that they will lose their jobs in the coming decade owing to digitalization and automation, which is above average

1214 McKinsey Global Institute 2018
1215 Rhyner 2017
1216 Sachs et al. 2016
1217 Woerwag/Cloots 2018: 19

in Switzerland (Fritschi/Oesch 2018: 42), are intense. This causes stress and emotional exhaustion among these workers. Nevertheless, other voices claim that because of automation—for example, through RPA—workers are happier with their tasks as they are liberated from repetitive work and can progress toward more "meaningful" work (Langmann/Turi 2021: 91).

As automated finance increases, financial sector jobs may soon be difficult to come by, whereas access to financial services is increased, with more options available to users. This requires that workers have greater education and financial literacy in Switzerland as elsewhere. This would also be beneficial for individuals planning their lives from a financial perspective, supporting the capability to practical reason. In that sense, educational policies are required for those who transfer out of the financial industry and become redundant, such as financial advisors replaced by robot advisors, but financial literacy would also increasingly need to be a part of general education.

5.1.4 Medicine

Healthcare is expected to create most jobs in Switzerland, apart from the technical and professional services[1218]. Socio-demographically, the country is confronted with an aging population, and so the automation risks in healthcare—for example, for individuals working in elderly care—are comparatively low. The potential of automation must be fully unpacked so that the impact can create even more jobs in the medical field than there are today[1219].

Technology governance must ensure that robots are used in a way that does not impact or replace human care, which is required for its emotional capabilities and the ability to exercise self-respect and non-humiliation. In addition, it must be guaranteed that patients can still relate to other humans—for example, their relatives. This is also required to ensure, specifically in the case of Switzerland, that the potential of automation is used correctly to support the lives of patients and older people, whose bodily health may be supported by robots.

Access to healthcare could be increased and therefore the capability to bodily health. Nevertheless, given the existing nature of the healthcare system in Switzerland, access for everybody is already covered by the

1218 McKinsey Global Institute 2018
1219 Punkt4info 2022

mandatory health insurance. In addition, automation could benefit the capability to life, since processes such as diagnosis could be optimized and expedited, leading to quicker medical help when required. The same applies to deploying robot surgery, whereby a quicker process could be provided and increase health, and—if the robot is able to reduce the error rate—bodily integrity.

5.1.5 Rule of law

Legal tech is advancing in Switzerland, where lawyers increasingly use software for document automation, for investigation, or to analyze legal texts, such as contracts or sentences[1220]. Chatbots are also increasingly used to advise clients as to what legal action should be taken. In general, however, digital skills still do not appear to have been incorporated into most universities' law programs. In terms of the discussed digital ledger technologies (DLT), in the case of Switzerland, the application does not appear to have had a substantial impact on jobs, as the trust issue appears not to have been solved when the technology is applied to real-world issues.

Switzerland's public sector is expected to undergo a displacement of activities[1221]. Digital administration in particular will be adopted in connection with the deployment of automation technologies[1222], whereby automation is projected to reduce costs that may lead to a reduction in tax burdens for the society and economy. Process automation is closely linked to the value levers of cost reduction and productivity increase. Personnel can thus be relieved of routine work and deployed for other, more demanding activities.

It is clear that in the short term, simple process automations are possible. However, more complex automations require more time[1223] and specific guidelines for the deployment of the relevant technology. Discrimination is a major threat when public services are automated, also in the case of Swiss Cantons[1224], paired with the issue of third-party responsibility when outsourcing the development of algorithms, a development highlighting the necessity of human agency and data protection. Nevertheless, there is the

1220 Baumgartner 2022
1221 McKinsey Global Institute 2018
1222 Brueesch et al. 2017
1223 Brueesch et al. 2017: 37-45
1224 Braun Binder et al. 2021: 6

potential that automation of government administration would lead to a fairer process based on the Swiss idea of the state, with a depersonalization of the administration without any arbitrariness[1225].

In that regard, from an ethical perspective, technology regulations are key to ensuring that non-discrimination is ensured when public services are provided. In that sense, the political instruments of direct democracy may be used to increase the transparency and accountability of these technologies. Moreover, the deployed automation technology must ensure that search and seizure are aligned with constitutional rights, when policing or other activities are granted increased access to data bases, which then form the basis for decision-making.

5.2 The crucial importance of social assistance

All capabilities should be supported from a policy perspective in the context of advancing automation with a working social safety net. As automation increasingly affects and pressures workers in many sectors, their situations are shaped by whether or not they are assured a social safety net in the future. This includes the availability of a sufficient minimal income and access to healthcare in case their labor is no longer required. In this context, there is a vast difference between the United States and Europe. As the United States has hitherto struggled in terms of incorporating mandatory social support or healthcare, many countries in Western Europe, including Switzerland, have excelled in implementing these crucial instruments as part of a social contract. This is also relevant in terms of the ability to grant access to education for people who have been dropped from the labor market upon losing their jobs. In addition, a working social safety net will provide the immediate required help for those in need. It will also empower employees to embrace the potentials of automation technologies without fearing their own replacement.

For example, a US worker who applies automation technologies might fear replacement of their own employment, which not only provides their income for subsistence and maintenance of family but also secures their healthcare. This enormous pressure may in many cases lead to automation anxiety on the part of the worker. By contrast, in European countries with existing social safety nets, workers can accompany the deployment

1225 Ringeisen et al. 2018: 53

of automation technologies in a relaxed manner, in the knowledge that even their replacement will not devastate their existence. In addition, a social safety net typically offers certain educational possibilities, such as the job placement agency Regionalen Arbeitsvermittlungszentren RAV in Switzerland, which provides courses to benefit labor market reintegration. Alignment of these public services is required in times of automation, when changing job profiles and alteration in employment situations become more frequent.

This structure would also be preferable than UBI from an ethical perspective, and the aftermath of the Swiss vote on a UBI accelerated the discussion as to how the costs of a UBI might be controlled[1226] as it is the first country in which a popular vote has been submitted. The debate mainly centered on the cost objection, which is a common argument against the introduction; however, from the ethical perspective and above analysis, a UBI does not appear to be suitable as it negates on the one hand, the importance of work for society and to enable other capabilities and on the other hand fails to address the problem of how those who require specific assistance (in cases of disability, etc.) should be treated.

In Switzerland, political rights as such do not seem to be endangered thanks to the political system's stability, including all major political parties and affording citizens the opportunity to directly influence policy decisions through the instruments of initiative and referendum. Nevertheless, changing identities as a result of the shifting pace in the workplace may affect how individuals behave in the political system. The social assistance scheme again emerges as critical in allowing individuals to continue exercising their political rights with access to information and education.

In that sense, from an ethical perspective, it is crucial to have a social assistance scheme that can provide individuals with human dignity in the attempt to create a "decent society" when confronting the challenges and opportunities of advancing automation in the policy environment. Individuals of the future will likely live in a society that is heavily reliant on suitable social security measures aimed at ensuring that people are not out of work or unable to access the minimal requirements for a dignified life.

1226 Joerimann 2017