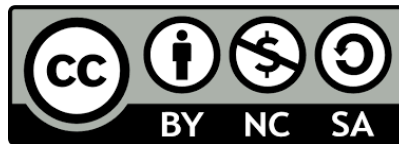


# Detecting social welfare frauds in the Netherlands

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SyRI : System Risk Indicator

# SyRI: System Risk Indicator

- Organizational goal: support officials in investigating welfare frauds<sup>1</sup>
- System goal: predict individuals risks of welfare frauds
- Expected benefits:
  - Reduced inspection time and related cost savings
  - Better resource allocation
  - Less waiting time and administrative burdens
- Incorporated in Dutch legislation from 2014, deployed by Employee Insurance Agency and the Tax and Customs Administration, developed by the Totta Data Lab startup

<sup>1</sup> estimated welfare fraud in the Netherlands: 150 million euros a year; estimated tax fraud in the Netherlands : 22 billion euros per year.

# System Risk Indicator (SyRi)

## 3.2.6 SyRi (Systeem Risico Indicatie), the Netherlands

Country	The Netherlands
AI typology	Predictive Analytics, Simulation and Data Visualisation
Level of administration	Central/ Municipal
Policy Sector	Social Protection
Purpose	Enforcement
Main enablers	Sharing of data/resources, high data quality, Political leadership
(Expected) Impact	Improved inspection capabilities, improved welfare of children, reduced misuse of public funds

Various municipalities in the Netherlands have been using the SyRi **system to detect welfare fraud more effectively**. SyRi has been developed by the Dutch government and uses various risk indicators from existing governmental systems such as taxes, health insurance, residence, education and many more, in order to detect which addresses hold a higher risk of fraud or misuse of welfare benefits.

# Adoption mechanism

- When a governmental agency suspected welfare fraud in a specific neighborhood (benefits, allowances, or taxes), it should cooperate with another agency and ask the Ministry of Social Affairs and Employment to have the SyRI system deployed.
- Municipalities, the Employee Insurance Agency, the social security bank, inspectors of the Ministry of Social Affairs and Employment and the tax authority can ask access to the system

# SyRI Process



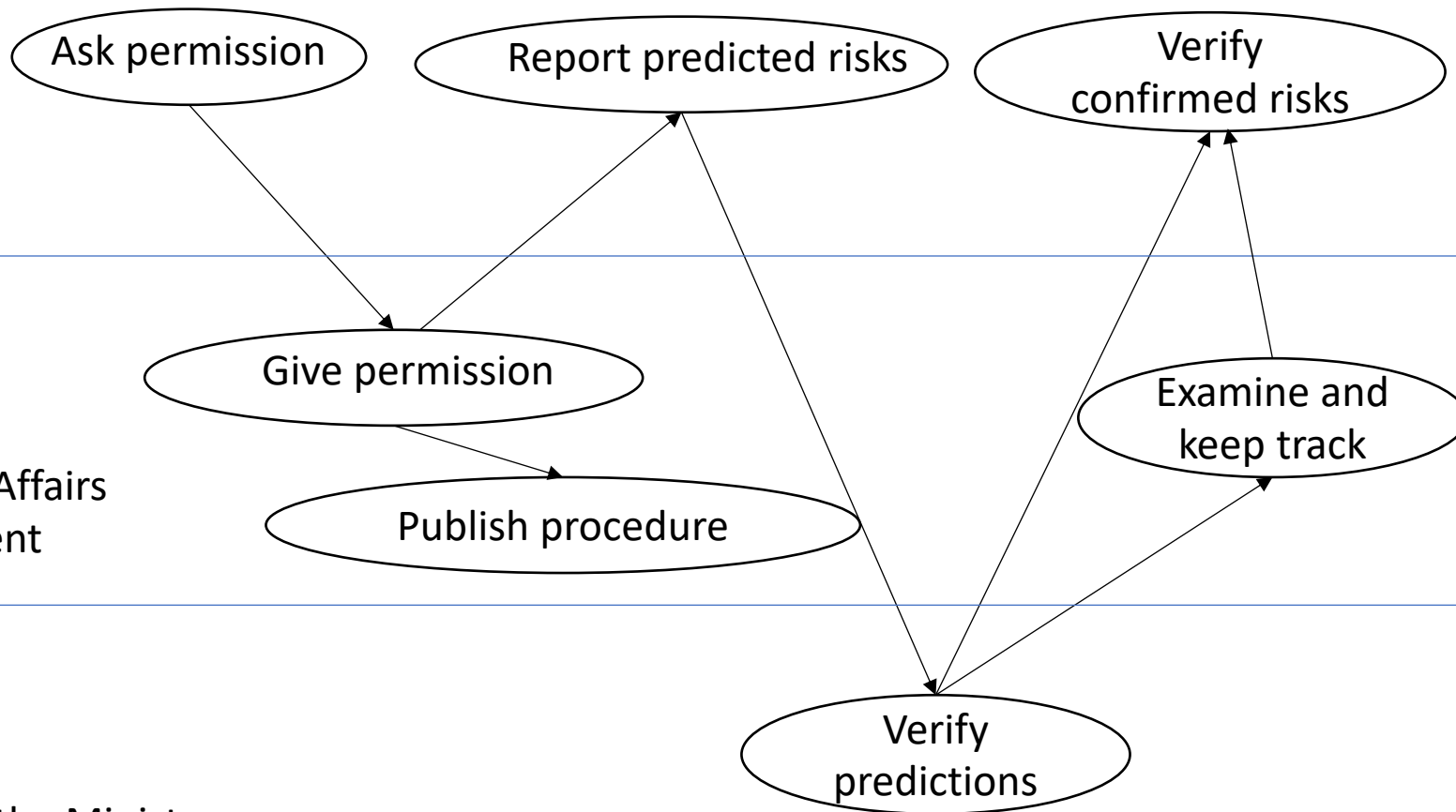
Public agencies



Ministry of Social Affairs  
and Employment



Inspectorate of the Ministry  
of Social Affairs and Employment



# System working mechanisms and procedures

- SyRI was trained on historical data of residents of Dutch municipalities for patterns of social security fraud
- SyRI produced a prediction on which which citizens of a selected neighbourhood were suspected of welfare fraud
- Positive predictions (suspected welfare fraud) sent to the Inspectorate of the Ministry of Social Affairs and Employment

# Verification

- The Inspectorate analyse and verify the predictions, and then report back to the requesting agencies and to Ministry of Social Affairs and Employment
- Ministry of Social Affairs and Employment examines flagged citizens for false positives, and keep confirmed positive risk reports for a maximum of two years.
- The requesting agencies further investigates the frauds, and only if confirmed a sanction could be imposed.



# Data used by the system

- Since 2014, SyRi integrated personal data about citizens from several governmental bodies (both central and decentralised):
  - work, fines, penalties, taxes, properties, housing, education, retirement, debts, benefits, allowances, subsidies, permits, exemptions, and more
- Pseudonymized data : citizen's names replaced by a unique identifier for each individual, so that it is merge data about citizens from the several data sources used.
- Identifiers are translated back to real names to make sanctions.

# Deployment and impact

- SyRI was deployed only in low-income neighborhoods
- Selection bias: more high risks citizens will be found there
- Feedback loop if training data is updated with new fines
- Reinforced stereotyping and negative image of “problem zones”
- → High potential of structural impact

# Citizens' perspective

- Citizens were not automatically informed about the investigation
- SyRi's risk reports were inserted in a registry that citizens could view only upon request.
- → If individuals do not know they are investigated, they will not require to check their own data and cannot access the reasons why they have been flagged.
- In practice, when an individual was sanctioned, she could not defend herself

# Transparency and reliability

- In 2018, the Ministry of Social Affairs decided that the SyRI risk models should be kept secret otherwise citizens could potentially adjust their behavior accordingly
- Dutch government refused to offer transparency on SyRI's black-box when motions were filed in Parliament (in 2018) and later in Court (in 2020)
- After an independent audit carried by the Netherlands' Organization for Applied Scientific Research research institute, the auditors reported:
  - "The results of the algorithm do not appear to be reproducible"
  - "The risks indicated by the AI algorithm are largely randomly determined," the researchers found.

# Detecting social welfare frauds

Feb. 2020

## Historical sentence of the Court of The Hague striking down the collection of data and profiling for Social Security fraud (SyRI).

February 15, 2020 , 6:13 pm , Data Ethics, Technology and Society, Transparency

<https://www.transparentinternet.com/data-ethics/syri-sentence-an-historical-sentence-against-discriminatory-profiling/>

### ARTICLE 8

#### Right to respect for private and family life

1. Everyone has the right to respect for his private and family life, his home and his correspondence.
2. There shall be no interference by a public authority with the exercise of this right except such as is in accordance with the law and is necessary in a democratic society in the interests of national security, public safety or the economic well-being of the country, for the prevention of disorder or crime, for the protection of health or morals, or for the protection of the rights and freedoms of others.

European Convention of Human Rights (ECHR), Art. 8

6.7. The SyRI legislation does not meet the requirement laid down in Article 8, paragraph 2 of the ECHR that interference in the exercise of the right to respect for private life is necessary in a democratic society, that is to say necessary, proportional (proportional) and, in the alternative, in relation to the intended purpose. The court compared the content of the SyRI legislation in the light of the purposes that this legislation serves against the breach of private life that the SyRI legislation makes. It is of the opinion that the legislation does not comply with the 'fair balance' that must exist under the ECHR between the social interest that the legislation serves and the violation of the private life that the legislation produces in order to be able to speak about a sufficiently justified breach of private life. In doing so, the court takes into account the fundamental principles on which data protection under Union law (the Charter and AVG) is based, in particular the principles of transparency, the purpose limitation principle and the principle of data minimization. She believes that the legislation regarding the use of SyRI is insufficiently clear and verifiable. It is for that reason that the court will declare Article 65 of the SUWI Act and Chapter 5a of the SUWI Decree to be incompatible with this judgment on grounds of conflict with Article 8, paragraph 2 of the ECHR.

6.23. Over time, the ECtHR has classified various interests under the notion of private life and has thereby brought it under the protection of Article 8 of the ECHR. The right to respect for private life also protects a right to personal autonomy, to personal development and self-development and the right to enter into relationships with others and the outside world. According to the ECtHR, the principles of human dignity and human freedom belong to ' *the very essence of the Convention* '. <sup>13</sup> Together with the notion of personal autonomy, they play an important role in determining the scope of the right to respect for private life.

6.24. The right to personal identity and the right to personal development are also mentioned by the ECtHR as sub-aspects of the right to respect for private life. The right to personal identity is also closely related to the right to protection of personal data. Finally, in the case of data processing, the right to respect for private life also affects the right to equal treatment in equal cases and the right to protection against discrimination, stereotyping and stigmatization.

# An example

- “Discrepancies” found in data could lead to a risk indication.
- An example is a low usage of running water:
  - Rational: someone who receives house benefits for single actually lives together with someone else at another address
  - Many other plausible causes are excluded by design (broken water meter, saving water, frequent business travels, etc.).
- Any possible data could be tracked for the purpose of the system

# Other motivations for the Court decision

- Involved risk of unintentional discriminatory effects (false positives)
- Infringement of fundamental EU principles of data protection:
  - Transparency
  - Purpose limitation
  - Data minimization
  - Contestation



# Wider considerations

- The foundations of SyRI lied in an institutionalised distrust towards citizens by a repressive welfare state
- Unmanaged conflict of values: protection of societal values and interests (fraud prevention) vs individuals' rights.
- Public distrust and outrage
- Alternative goals are possible: e.g., predict citizens who have the right to an allowance and did not apply for it
- People need actionable resources, automation for empowering

The childcare-benefits affair

# The childcare-benefits affair in a nutshell

- Since the early 2000's, the Tax and Customs Administration deployed the Fraud Signalling Facility (FSV in dutch language), a non-public risk-profiling system
- 'Blacklist' of 180.000 citizens suspected of fraud
- Many individuals on the blacklist were wrongly identified but still severely damaged.
- Like in Siry, the individuals on the blacklist were not informed and could not defend themselves
- The Tax and Customs Administration suffered from both poor data quality and poor data management.

# Issues

- Fraud signals were registered without attributing a weight to them
- Data were kept for too long and too many officials could access the system
- Profiling of groups of citizens during additional checks
- The nationality of childcare-benefit applicants among automatically flagged applications as high-risk (i.e., potentially incorrect and fraudulent)
- When an individual was flagged as a fraud risk, a manual review was conducted by a civil servant, but without explanation on the risk score

# Impact

- Tens of thousands of parents and caregivers falsely accused of fraud by the Dutch tax authorities.
- People from ethnic minorities and low-income families disproportionately impacted.
- No answers and explanations given to parents and caregivers identified by the tax authorities as fraudsters, for years.

*«Parents and caregivers who were selected by the system had their benefits suspended and were subjected to hostile investigations, characterized by harsh rules and policies, rigid interpretations of laws, and ruthless benefits recovery policies.»*

*«This led to devastating financial problems for the families affected, ranging from debt and unemployment to forced evictions because people were unable to pay their rent or make payments on their mortgages. Others were left with mental health issues and stress on their personal relationships, leading to divorces and broken homes»*

<https://www.amnesty.org/en/latest/news/2021/10/xenophobic-machines-dutch-child-benefit-scandal/>

## NEWS

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# Dutch Rutte government resigns over child welfare fraud scandal

🕒 15 January 2021



Dutch PM Mark Rutte said in January 2021 the decision to resign was "unavoidable"

**The Dutch government has stepped down after thousands of families were wrongly accused of child welfare fraud and told to pay money back.**

Families suffered an "unparalleled wrong", MPs decided, with tax officials, politicians, judges and civil servants leaving them powerless.

Many of those affected were from an immigrant background and hundreds were plunged into financial difficulty.

PM Mark Rutte submitted the cabinet's resignation to the king.

"Innocent people have been criminalised and their lives ruined," he then told reporters, adding that responsibility for what had gone wrong lay with the cabinet. "The buck stops here."

# Summary of issues

- **Intervention vs prediction:** fraud identification and punishment does not remove its cause
- **Target-construct mismatch:** supporting officials vs repressive policy
- **Distribution shifts:** massive training vs deployment in neighborhoods
- **Limits to prediction:** high error rates
- **Disparate performance:** low-income and minorities
- **Lack of contestability:** due to opaque processes
- **Goodhart's law:** “used” to prevent transparency



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- Alexandra Overgaag, *Recalibrating Power, Counter-Power and Trust: Governance Lessons Deducted from Impacts of the Dutch Automated Decision-Making System 'SyRI'*, Thesis LUISS School of Government, Executive Master in Politica & Tecnologie Digitali, Supervisor: Antonio Vetrò

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