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# Forests in the National Accounts: Economic Accounts for Forestry

Franz Murbach  
29.01.2016 – HEG-Workshop on economic  
valuation of forest ecosystem services

Swiss Statistics



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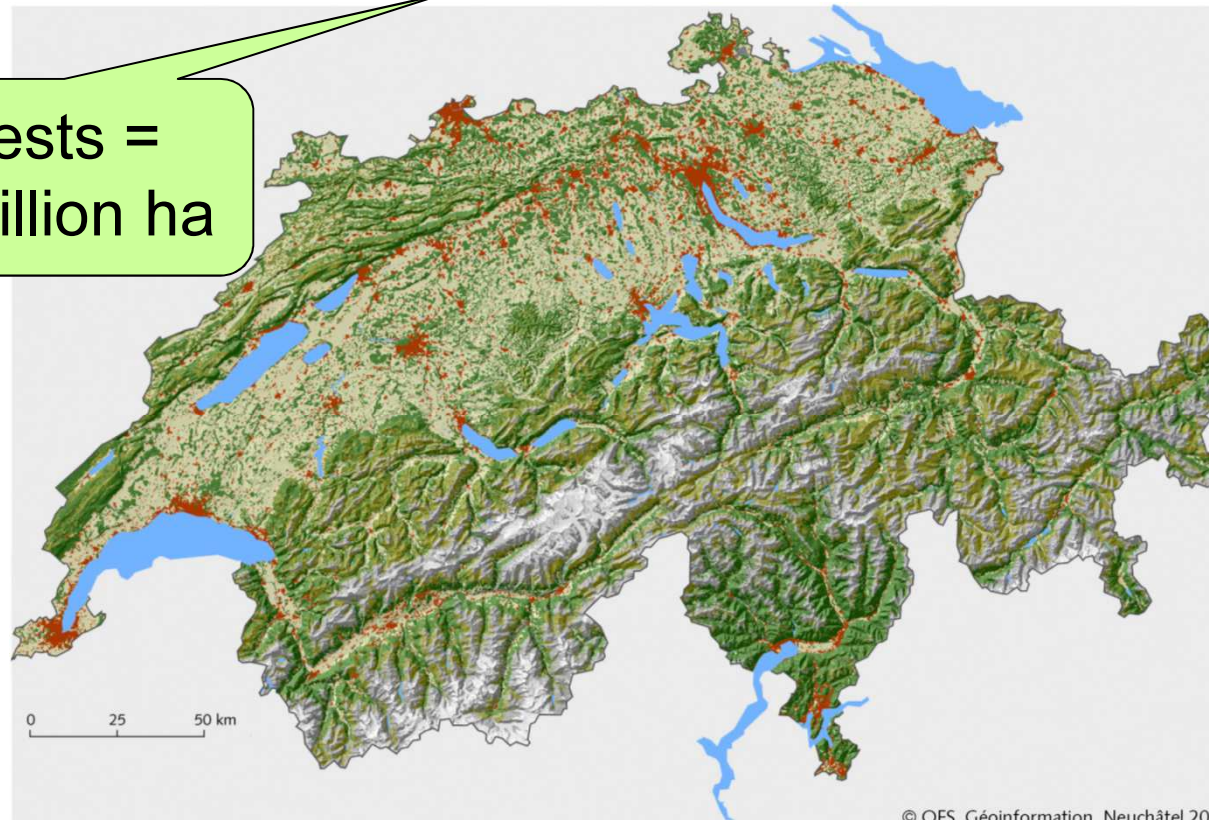
# 1. Introduction: some key figures about Swiss forestry





# Forestry, an economic activity which enhances 31% of the Swiss territory

Forests =  
1,3 million ha



- Habitat et infrastructure
- Agriculture
- Alpagnes
- Forêt
- Lacs, Cours d'eau
- Rochers, sable, éboulis, végétation improductive
- Glaciers, névés

Source:  
FSO

Source:  
© OFS, Géoinformation, Neuchâtel 2004 OFS, Statistique de la superficie 1992/97 (BNHG3)

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# Some key figures of Swiss forestry (2012)

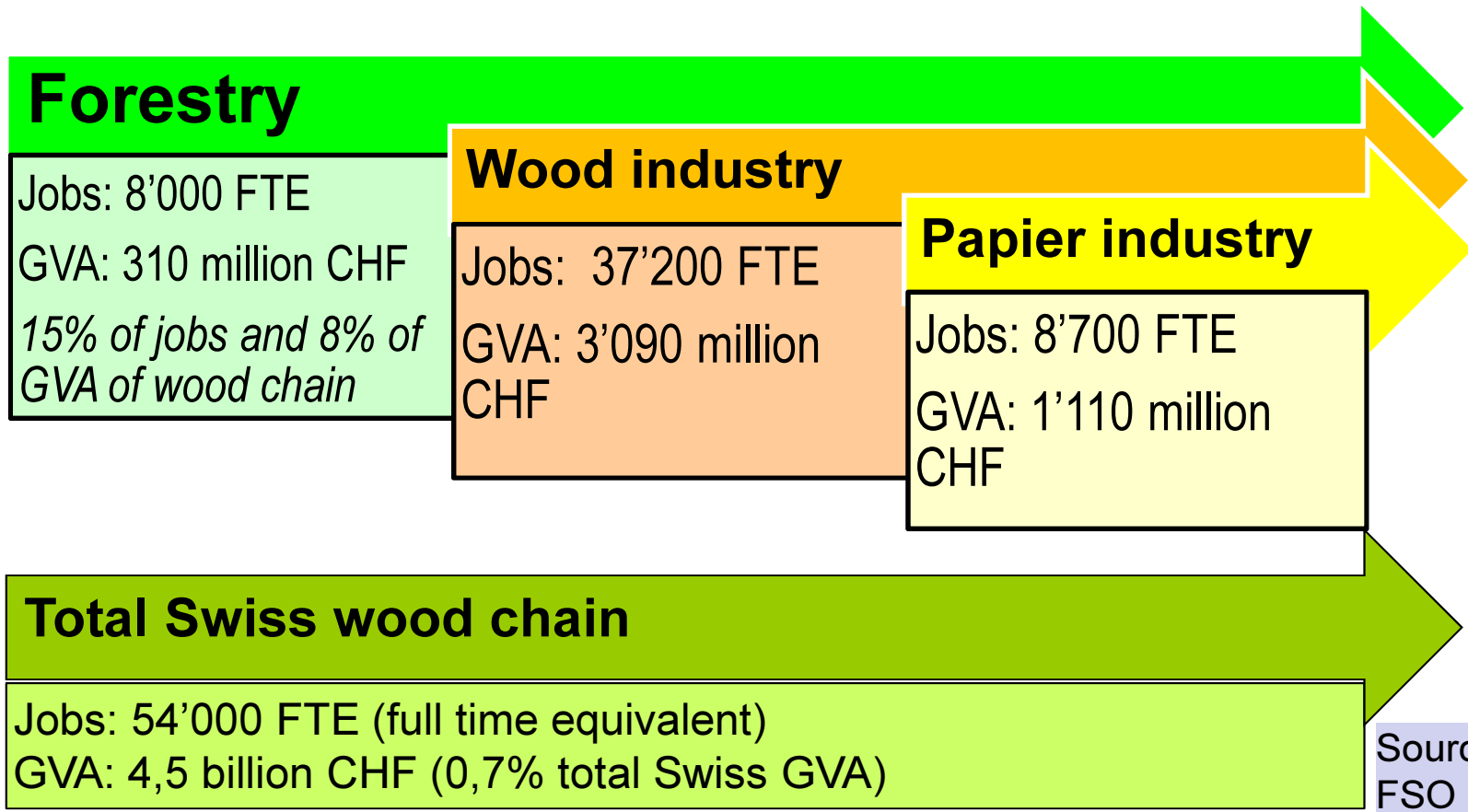
Public owners	9'000 (70% forest area)
Private owners	240'000 (30% forest area)
Jobs (companies)	6300 jobs (5000 FTE) (2012)
Jobs (incl. households)	8000 FTE (source: <i>EAF</i> )
Volume standing timber	450 million m <sup>3</sup> (NFI ø2009-13)
Annual timber removals	4,7 million m <sup>3</sup> (source: <i>FSO</i> )
Gross value added	310 million CHF
Part in total Swiss GVA	0,05%

Sources:  
FSO, WSL





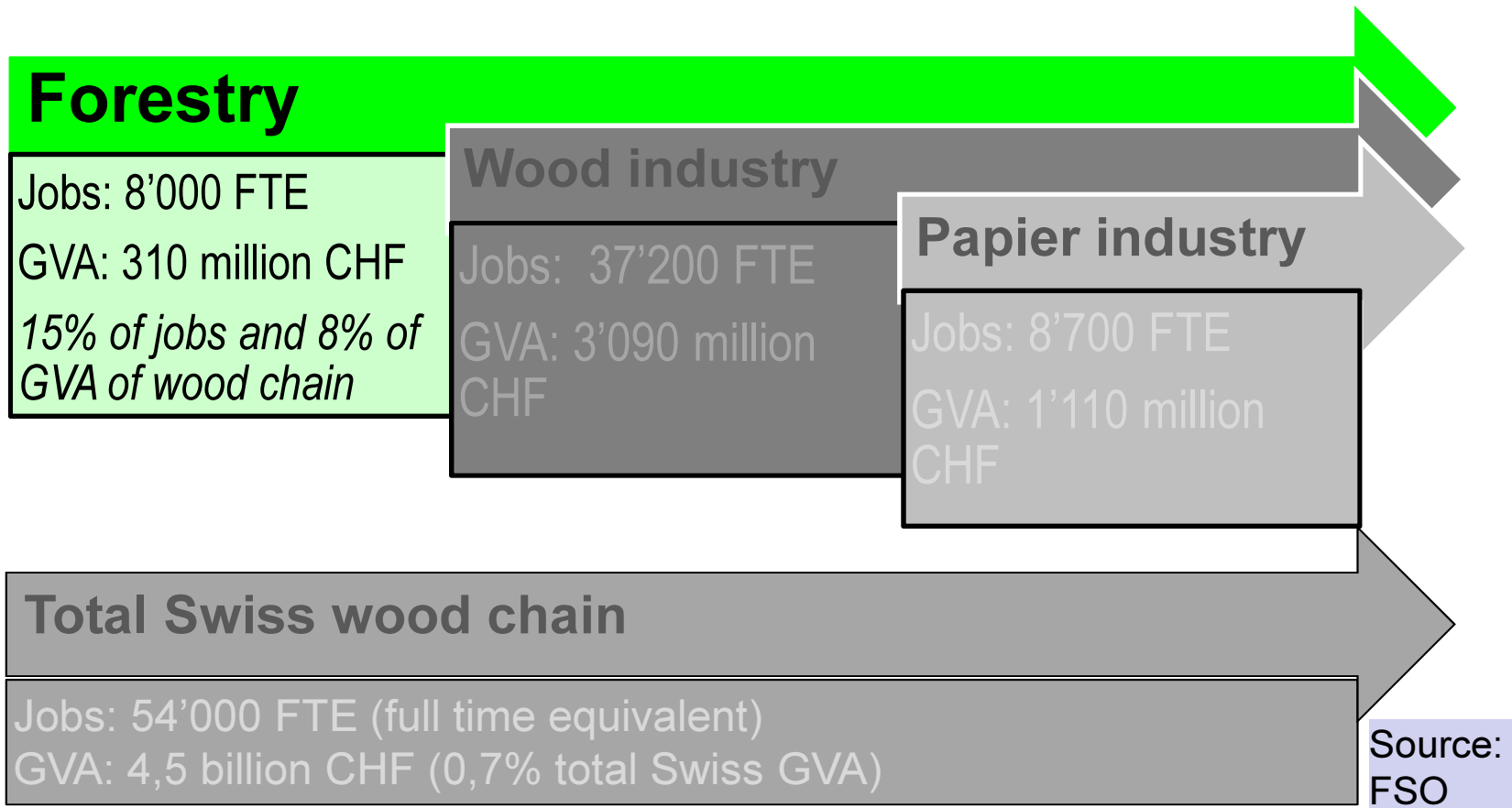
# Forestry in the wood chain (2012)



Source:  
FSO



# Forestry in the wood chain (2012)





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## 2. Economic Accounts for Forestry – position in public statistics










# National Accounts and forestry

- ➔ International standards in national accounting (UN, EU); strong cooperation between international agencies (UN, FAO, World Bank, IMF, Eurostat):
  - central framework (core of National Accounts)
  - satellite accounts (and bridges to NA)
  
- ➔ **Forestry:**
  - ☑ branch (industry) in national economy:  
production account, input/output tables (IOT)
  
  - ☑ specific coordinated satellite accounts for forestry
  
  - ☑ bridges between the satellite accounts and to NA



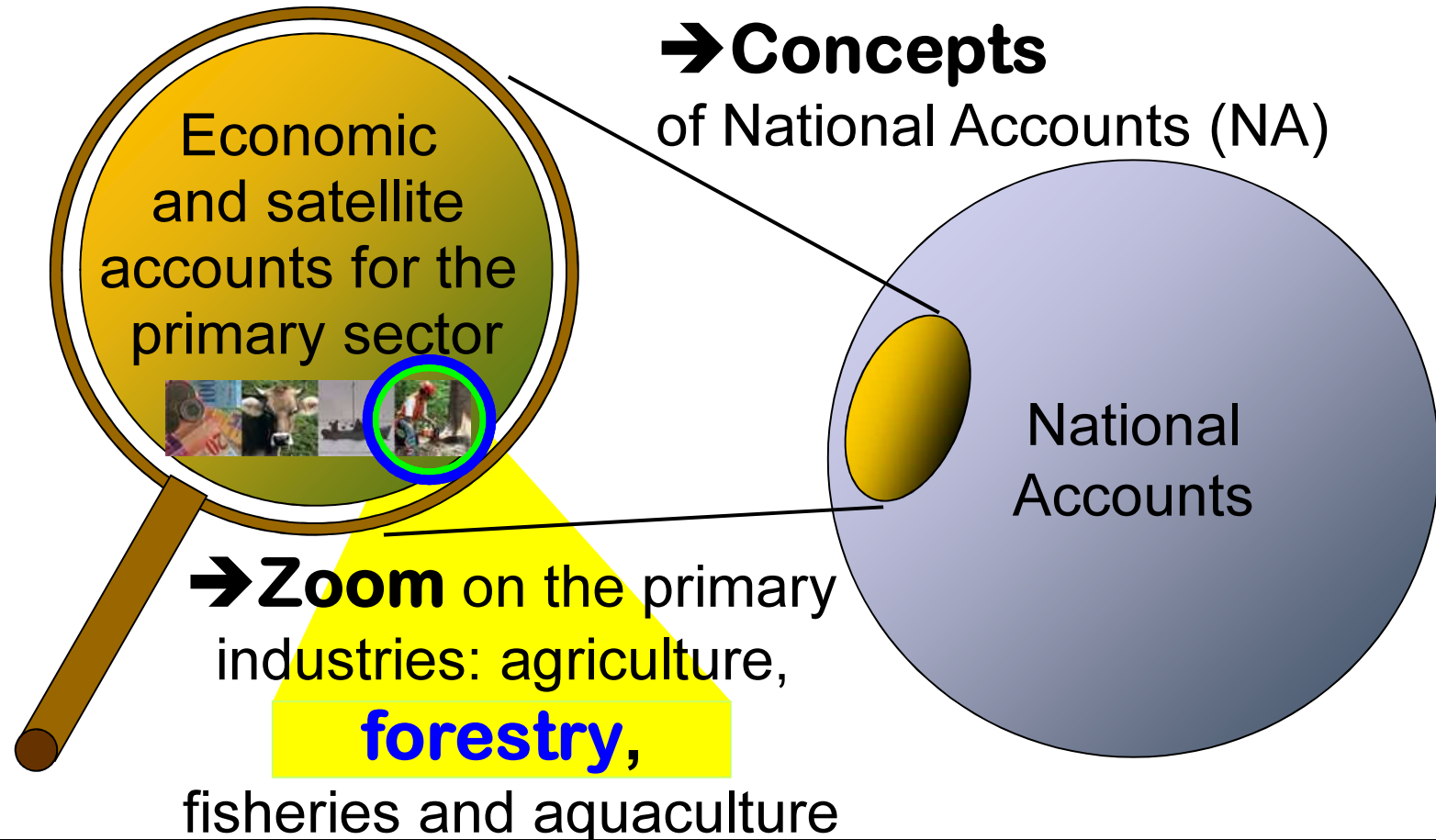
# National Accounts and forestry



Category, main topics	UN 	EU 	CH 
<b>National Accounts:</b> production, income, accumulation, assets	<b>SNA 2008:</b> System of National Accounts	<b>ESA 2010:</b> European System of Accounts	(ESA 2010) <b>Forestry Branch Account</b>
<b>Satellite Accounts:</b>  physical & monetary flows and stocks:  <i>central framework</i>	<b>SEEA 2012:</b> System of Environmental- Economic Accounting  <b>SEEA AFF:</b> Agriculture, Forestry, Fisheries: <i>in development</i>	<b>EAF:</b> Economic Accounts for Forestry  <b>IEEAF:</b> Integrated Envir- onmental and Economic Accounting for Forestry  <b>FA:</b> Forest Accounts: <i>pilot data in progress</i>	<b>EAF</b>  <b>IEEAF / FA</b> Part standing timber: <i>introduction in 2016</i>
<b>Experimental accounts</b>	<b>Experimental Eco- system Accounting</b>	<i>Not (yet) part of official public statistics</i>	

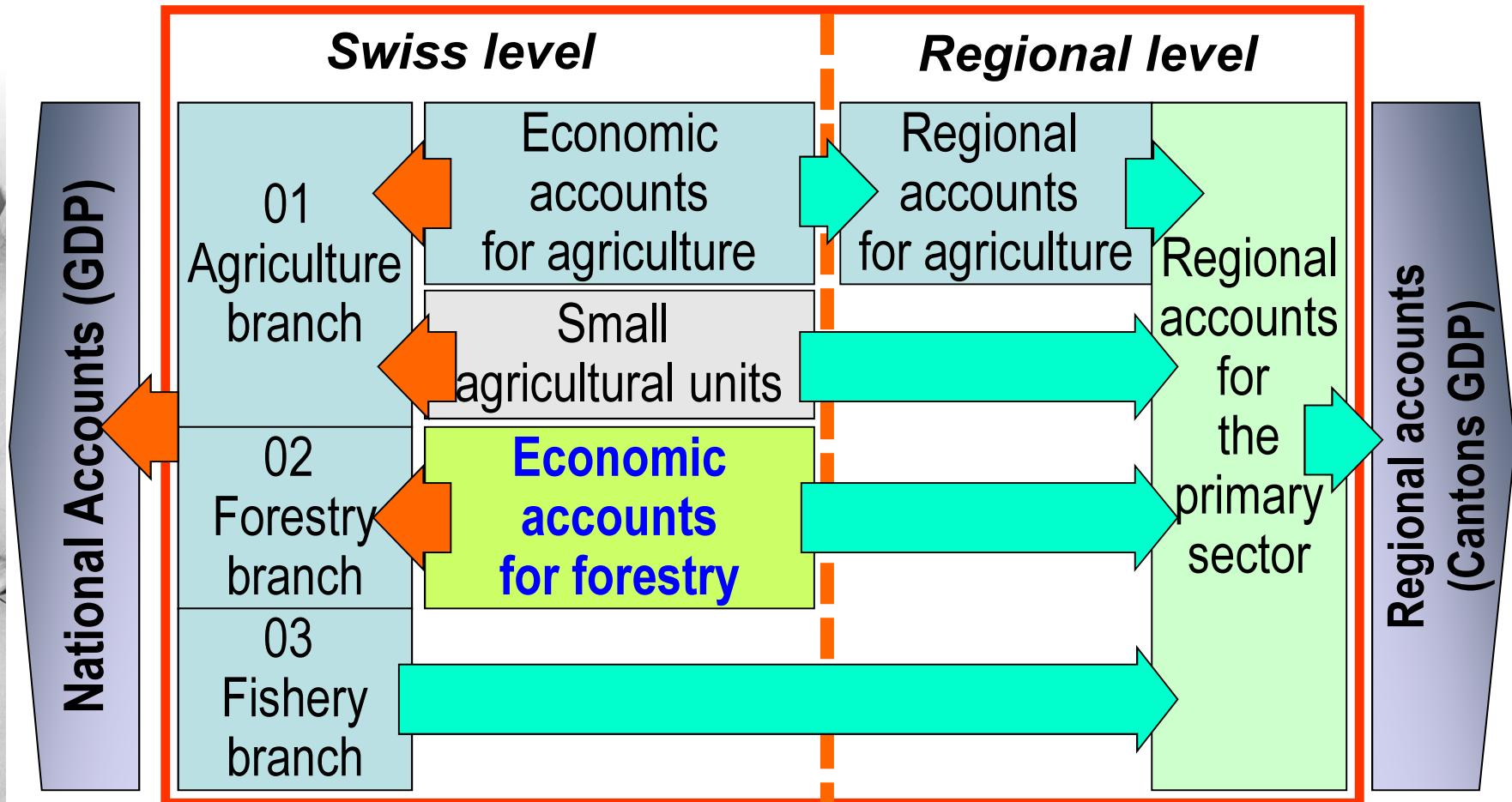


# Zoom on the Swiss primary sector





# Satellite accounts for the primary sector





# The input sources

## 1 synthesis statistic, over 20 input sources...

Federal statistics (official pluriannual statistical programme)	Forestry statistics (FSO/FS)
	Forest enterprise network (FSO)
	Structural business statistics (FSO/STATENT)
	Producer price index (FSO/PPI)
	Wood price statistics (FSO - Forest Economy Switzerland - Swiss Farmer's Union)
Federal administration	Value added tax (VAT) statistics (FTA)
	State accounts, public finances (FFA)
Forestry branch	Recommandations for contract work (ASEFOR)





# Economic accounts for forestry: ID card

Type of statistics	Economic synthesis statistics, satellite account
Institution, producer	Federal Statistical Office (FSO)
Statistical system	Economic and satellite accounts for the primary sector
Economic branch	Forestry and logging
Methodology	European System of Accounts, Eurostat manuals
Introduced in...	2003, then produced each year
Bridges, interfaces	National Accounts (FSO) Environmental Accounts (FSO)
Regional dimension	Switzerland (CH), Cantons (main aggregates)
Timeseries	1990-2013 (CH), 2007-2011 (Cantons)
Components measured	Production, income, accumulation, assets



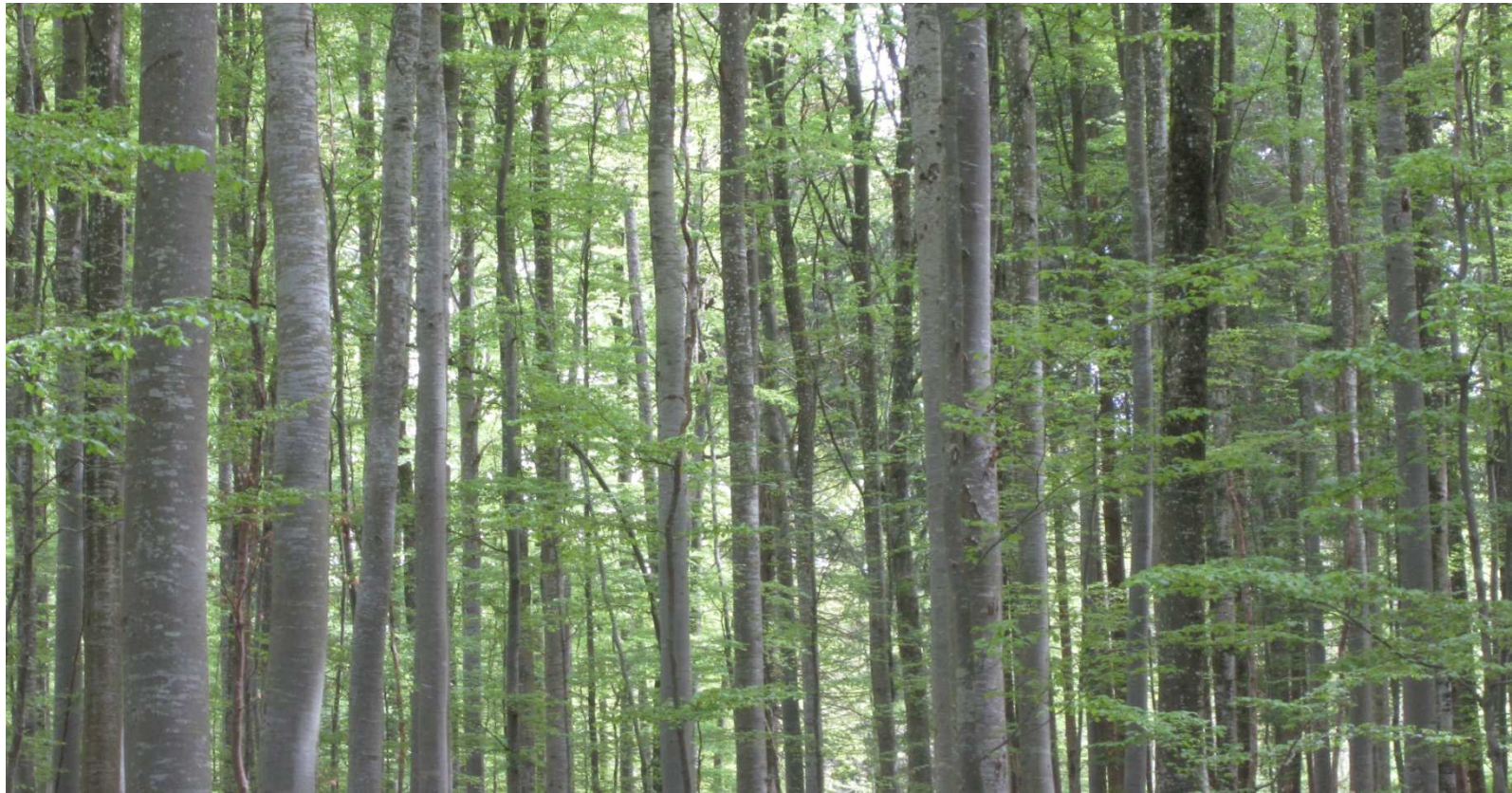


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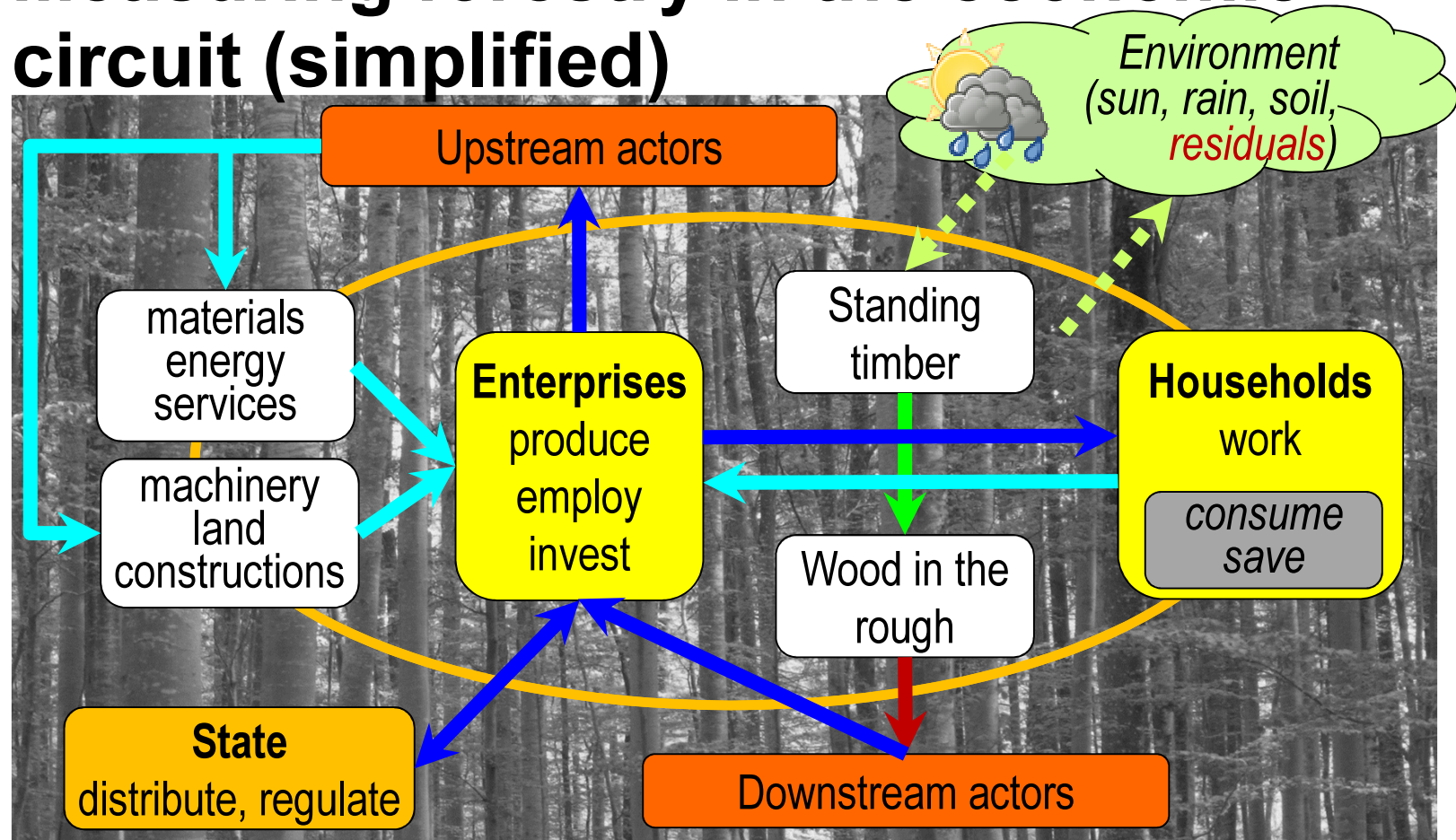
## 3. Methodological principles



**Forests in National Accounts - EAF** | 29.01.2016 – HEG-Workshop on economic valuation of forest ecosystem services  
Franz Murbach, Economic and satellite accounts for the primary sector - Environment, Sustainable Development, Territory Section, FSO



# Measuring forestry in the economic circuit (simplified)



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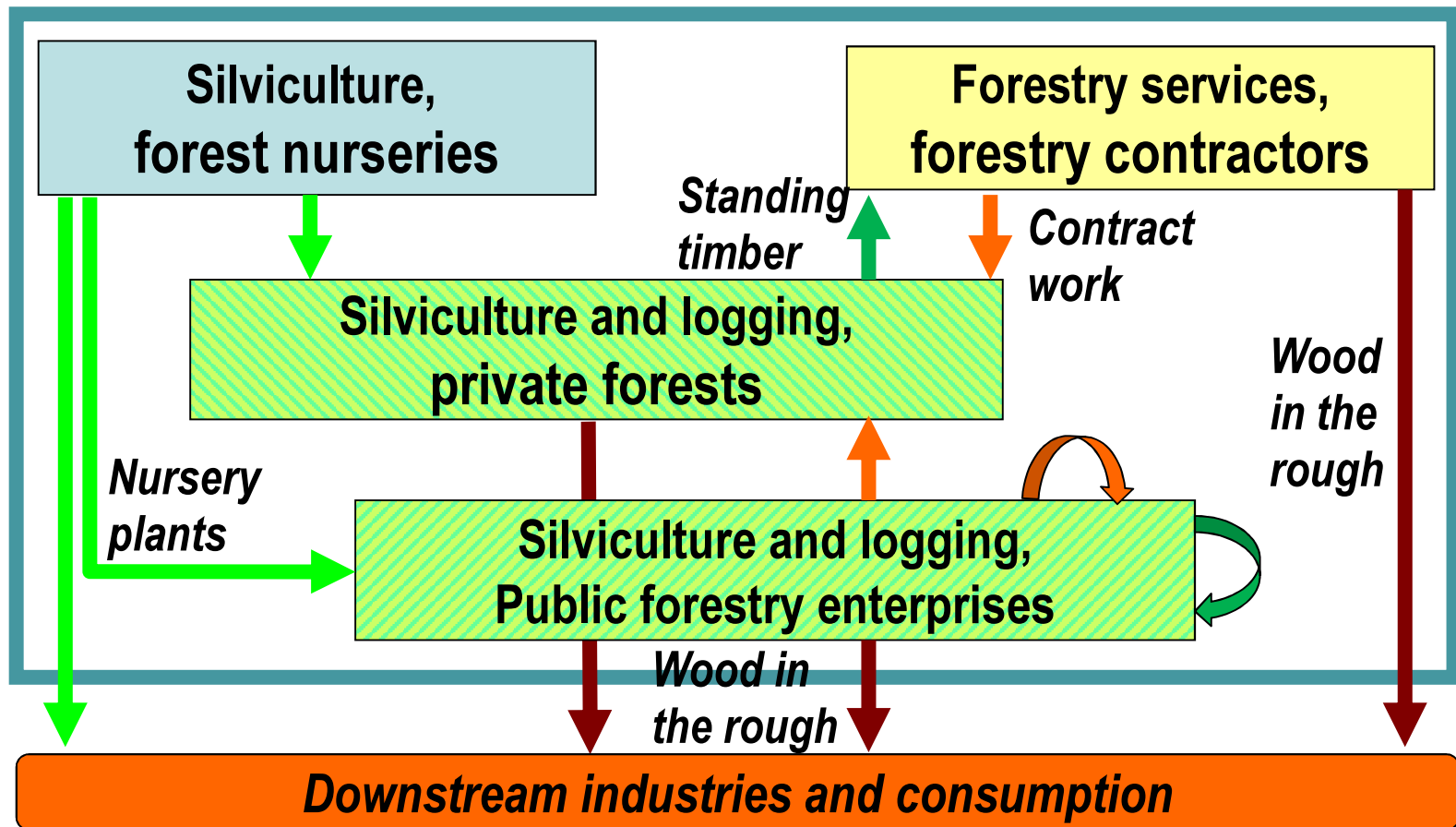
# Forestry and logging activities

Economic activity (industries)	Products	Relevance for CH
Silviculture and other forestry activities...	forest nurseries, standing timber	Yes
Logging	Wood in the rough (sawlogs, fire wood, industry wood)	Yes
Gathering of wild growing non-wood products...	mushrooms, berries, resin, cork, moss, etc.	No
Support services to forestry	Support services to forestry and logging, contract work	Yes





# The model of Swiss forestry





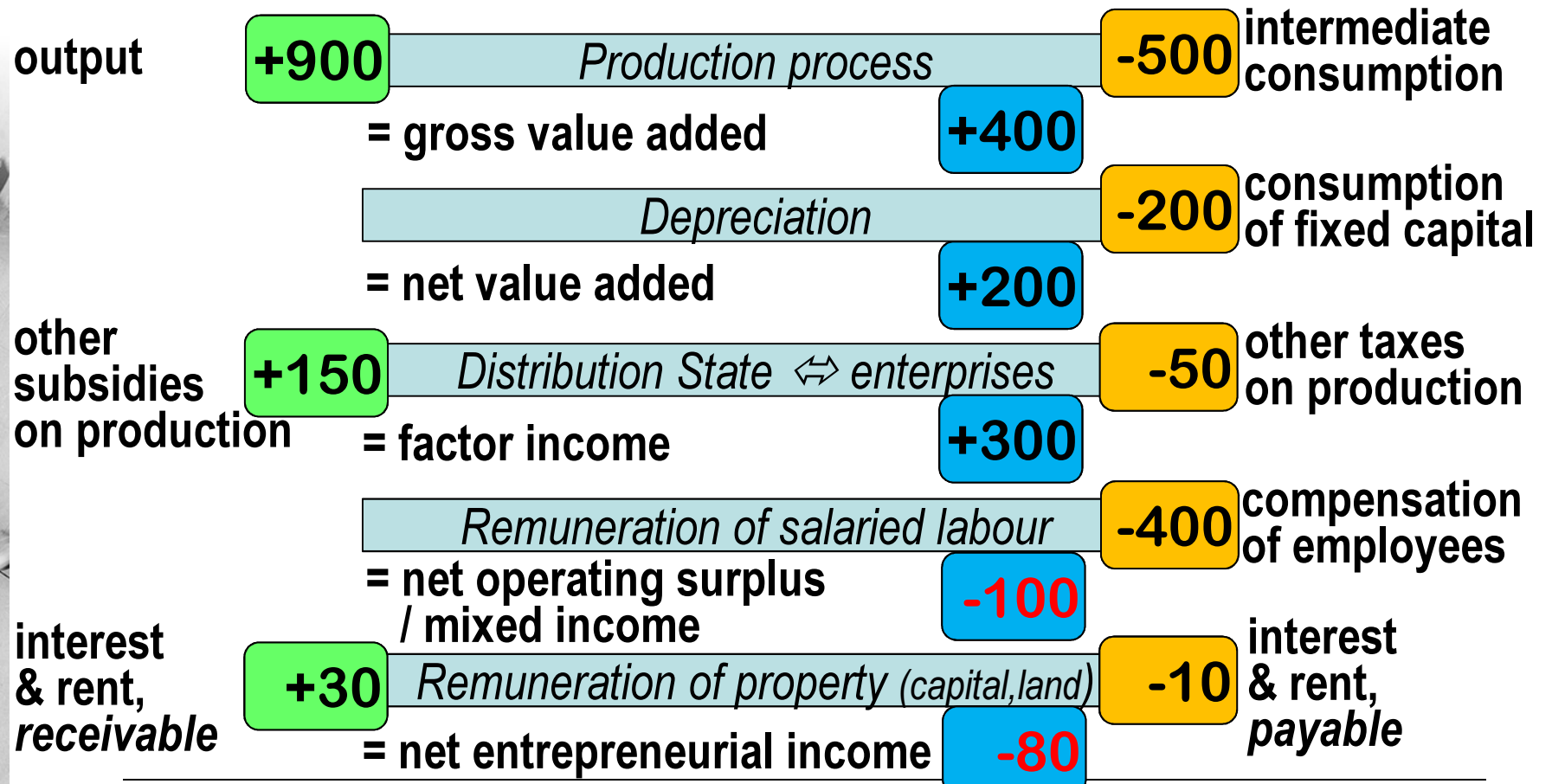
# Accounting construction

## Elements of accounting sequence are...

- ➔ Production process: creating value added  
*[production account]*
- ➔ Generation of primary income: operating surplus, mixed income, entrepreneurial income *[generation of income and entrepreneurial income accounts]*
- ➔ Accumulation: renewal of productive assets  
*[elements of capital account]*
- ➔ Productive assets *[elements of balance sheets]*



# From output to income





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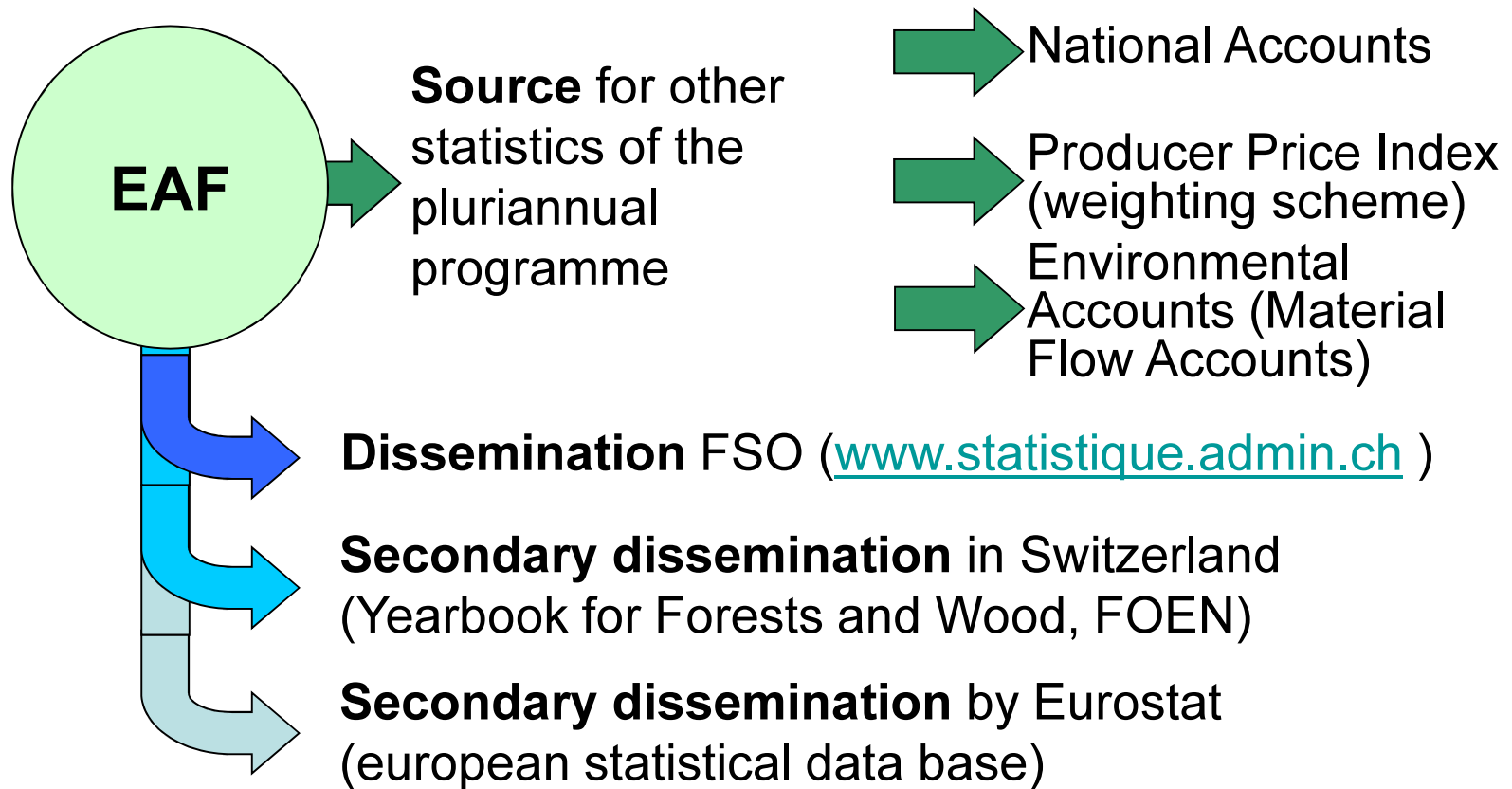
## 5. Dissemination of EAF statistics



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# Source and dissemination





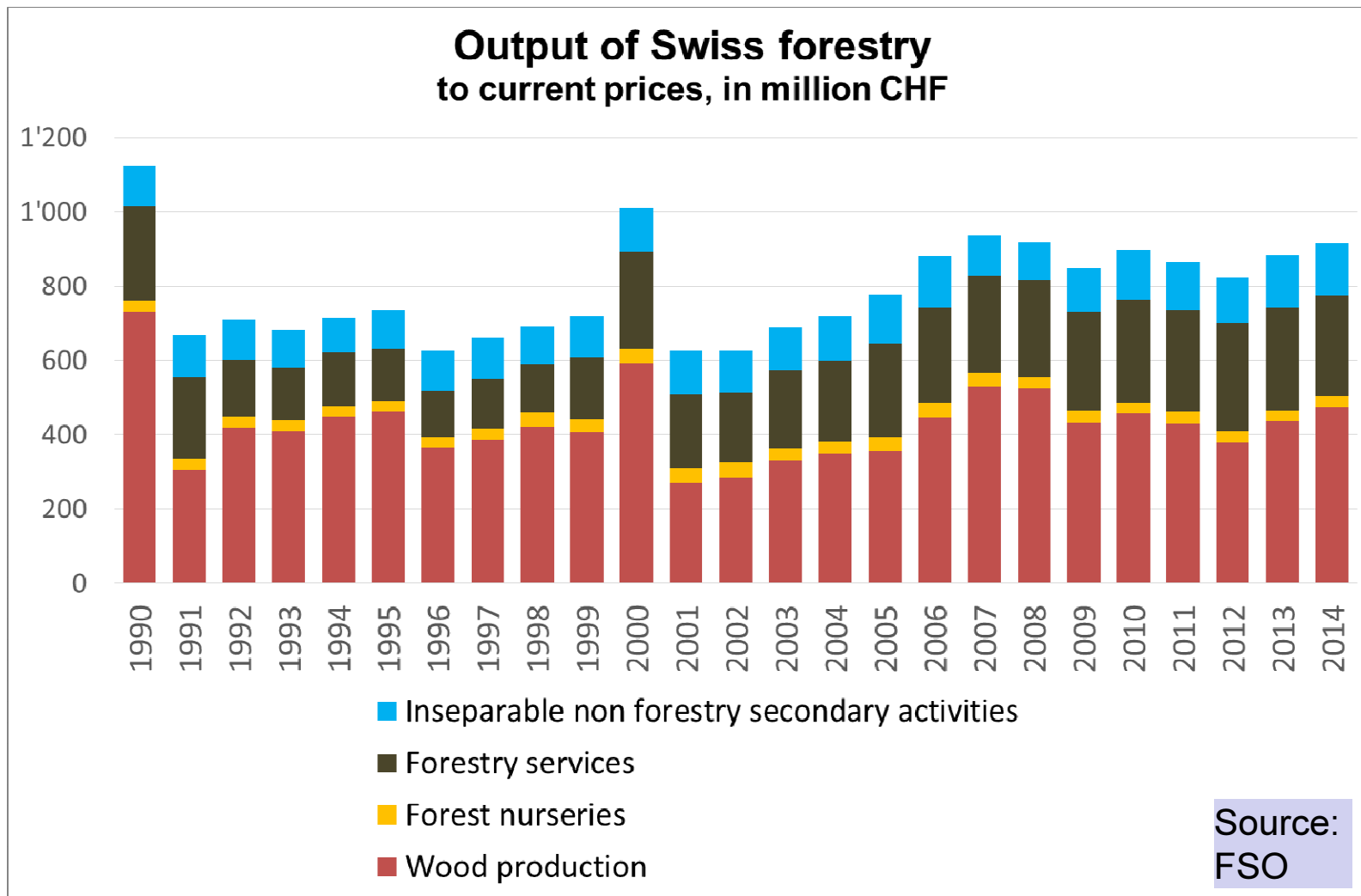
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# 6. Some results





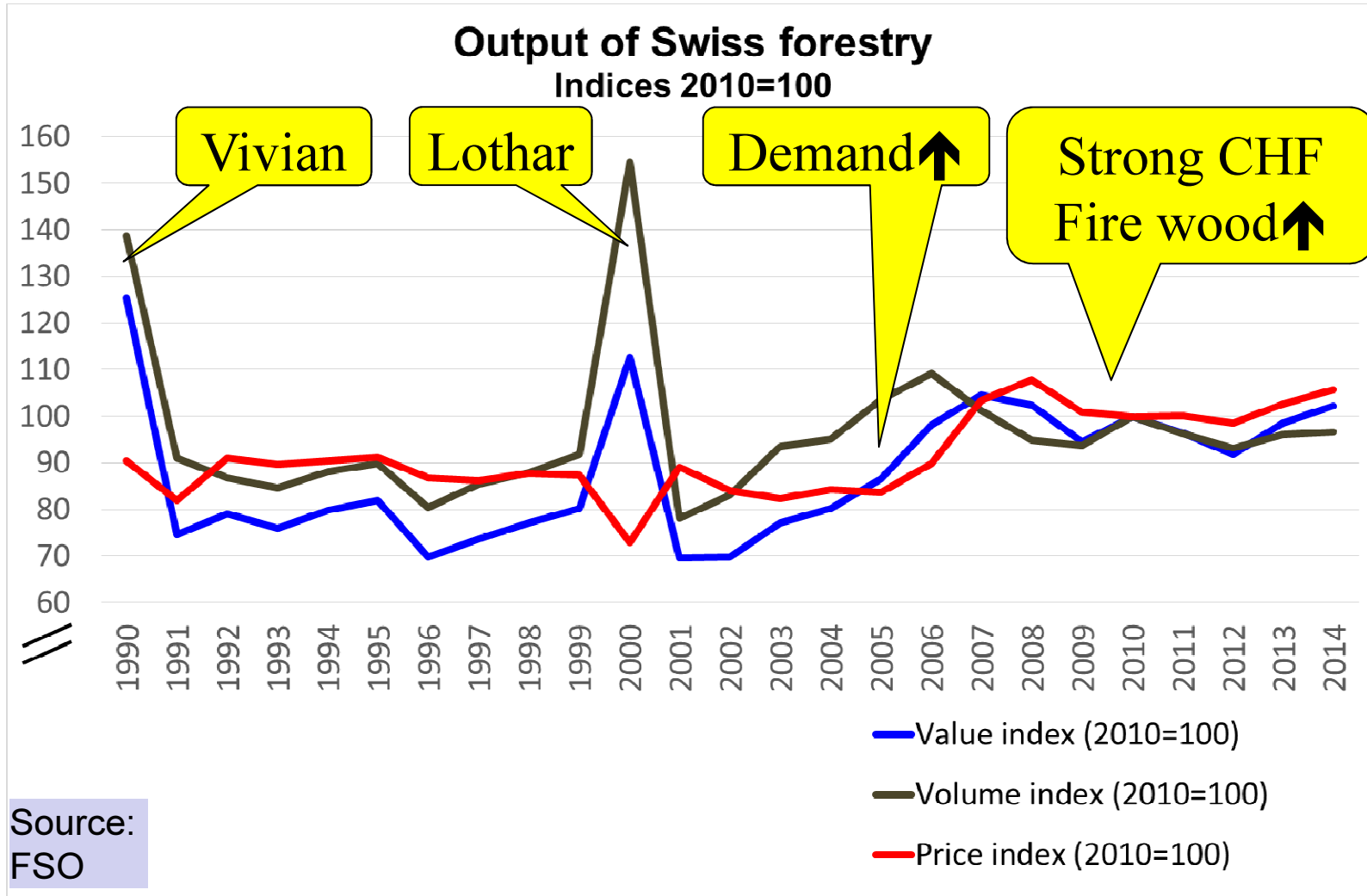
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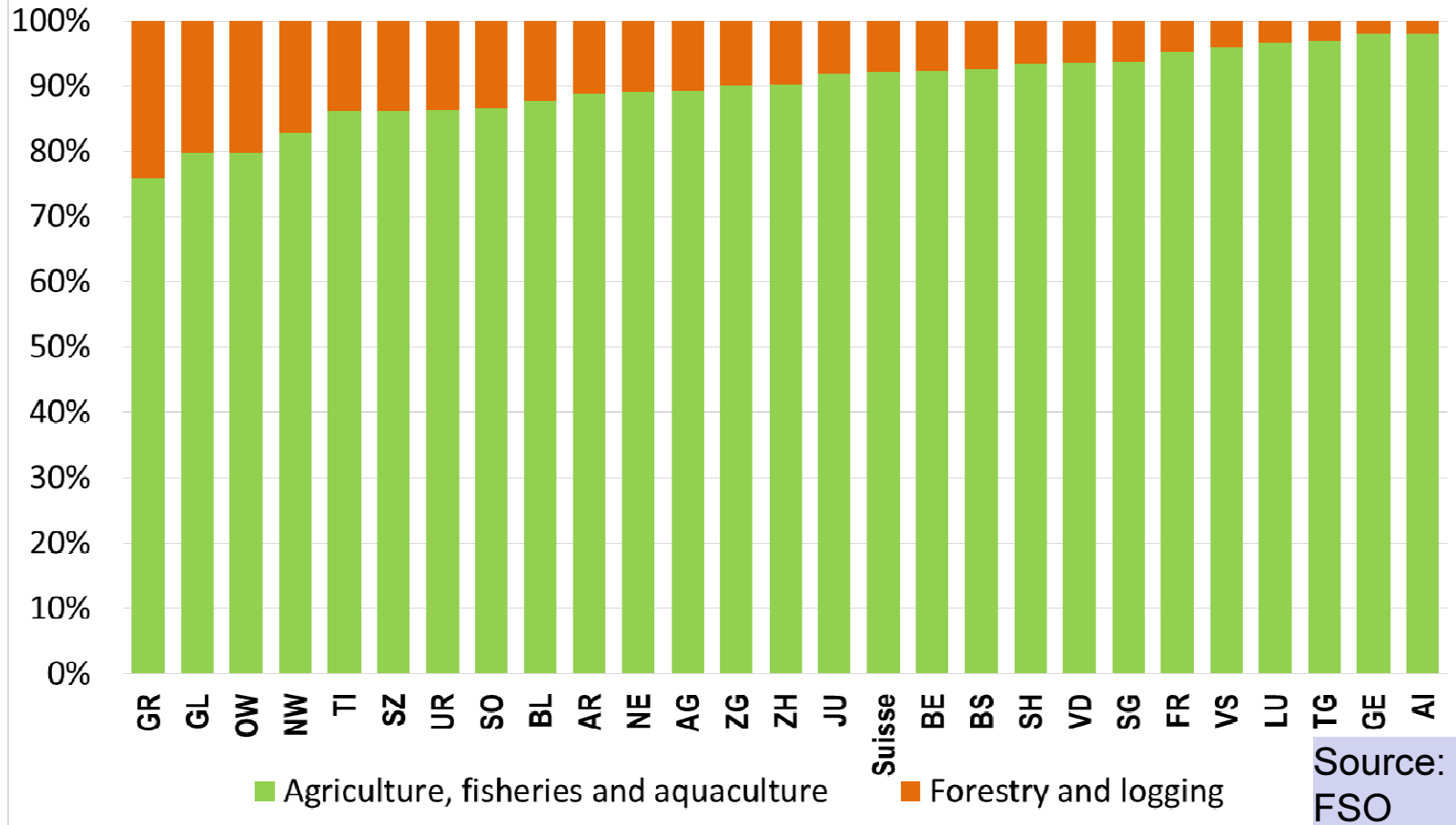
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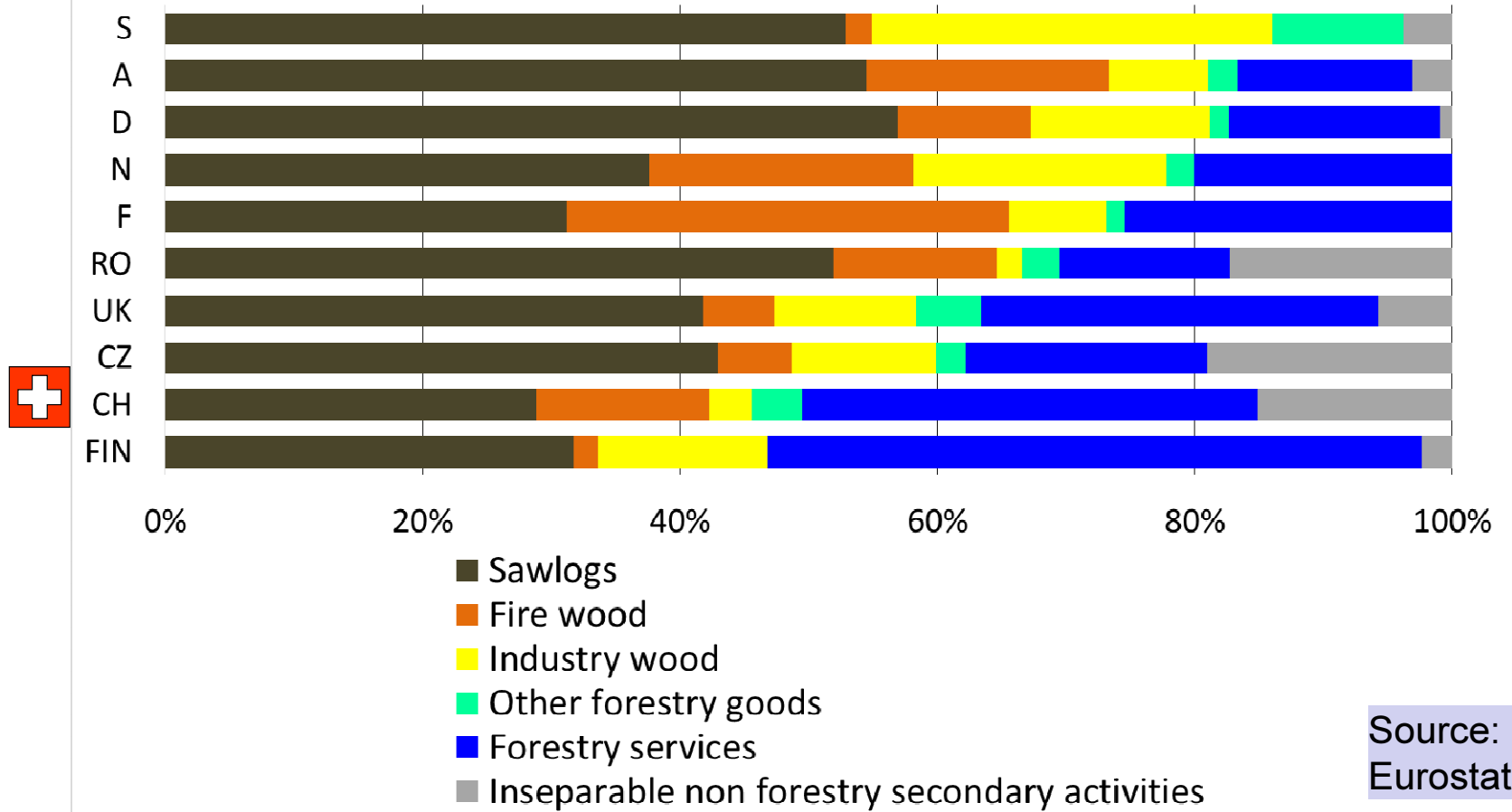
## Forestry in the primary economy of the Cantons part in the total output, in percent (2013)





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## Production patterns, international comparisons 2012 in percent, to current prices





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# 7. Perspectives





# Perspectives

➔ Yearly production

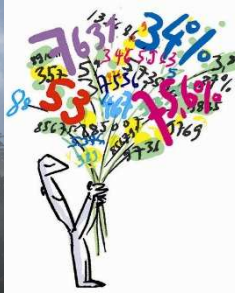
➔ New in 2016: Introduction of the economic valuation of standing timber  
= partial implementation of IEEAF / FA

- Balance sheet standing timber (physical, m<sup>3</sup>)
- Balance sheet standing timber (monetary, CHF)
- Variations closing stock – opening stock
- net annual increment of standing timber (output)
- removals of standing timber (intermediate consump.)



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**Thank you for your attention!**

**More information: [www.statistique.admin.ch](http://www.statistique.admin.ch)**

***Discussion and questions***

