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Další nová ekonomika nebo civilizační rozcestí?

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Problém nástupnictví v rodinných firmách

The Problem of Succession in Family Businesses

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ABSTRACT

The sale of a family firm, apart from being an economic-management decision, also has its emotional aspect. The life-long building of a family firm is often confronted with reality in the form of ideas of the next generation. The difference between ideas and reality may lead to conflict within a family, but also with respect to long-term business partners. The aim of the study was to analyse the process of the transfer or sale of a family firm to the next generation focusing on the basic component of the strategic succession plan and create a draft sale process for a specific family firm. Based on so-called 'round table' discussions a diagram was created of the process of the sale of a family firm and draft sale plan.

KEYWORDS

Family business, controlled succession, strategic succession plan, sale of business

JEL CLASSIFICATION

G32, D22

Úvod

Článek sumarizuje výsledky, získané při zkoumání problémů souvisejících s předáním řízení a vlastnictví rodinné firmy mezigeneračně z otce na syna. Cílem článku je analyzovat proces předání či prodeje rodinné firmy nastupující

generaci se zaměřením na základní složky strategického plánu nástupnictví.

Při pohledu na světové hospodářství, kde jasně dominují akciové společnosti s velmi rozptýleným vlastnictvím, by se mohlo zdát, že tradiční rodinné firmy v moderním podni-

kání již nemají místo. To je ale omyl; i mnohé z velkých firem, jež dnes mají podobu akciové společnosti, původně vznikly jako firmy rodinné, nejlepším příkladem toho je automobilka Ford. Dalo by se namítnout, že forma „a.s.“ je z mnoha hledisek, zejména pokud se týče rozšiřování kapitálu, mnohem výhodnější, a proto třeba i firma Ford postupně přešla na akciovou formu. To je nepochybně pravda, jenže každá začínající firma musí do té velikosti, aby se stala investorsky zajímavou, nejprve vyrůst, což není nijak jednoduché a může si to vyžádat i několik generací postupného budování, dle Cennamo et al. (2012). Rodinné firmy, ať už nabývají jakékoliv právní formy (forma živnostenská, ale často i například „otec a synové s.r.o.“, přičemž otec si ve firmě uchovává většinový podíl, a tedy rozhodující vliv), díky tomu vznikají stále. Dokonce v důsledku toho, že nejsou svázány celou řadou administrativních omezení, dle Servus (2018), typických naopak pro „akciovky“, mohou všemožné problémy řešit operativně a být na základě toho pružnější a alespoň hypoteticky konkurenceschopnější, dle Hnátek (2015) nebo Letonja a Duh, (2016). Navíc jen málokterá z nich doroste takové velikosti, resp. takového podílu na trhu, aby se mohla její transformace na akciovou společnost úspěšně realizovat, přičemž ani pak nemusí být s ohledem na výše uvedené o převod na formu akciové společnosti zájem.

Tento článek vychází z výzkumné studie a předkládá empiricky získané závěry, co je častým důvodem toho, proč se nově založeným rodinným firmám ne vždy podaří úspěšně zvládnout mezigenerační předání. V základním přiblížení by se příčina tohoto neblahého podnikatelského vývoje dala spatřovat v tom, že předání rodinného podniku nastupující generaci je nejen ryze racionální ekonomické

ko-manažerské rozhodnutí, ale že obsahuje i emocionální složku, dle Zellweger (2013). Celoživotní budování rodinné firmy je konfrontováno s realitou v podobě odlišných představ nastupující generace. Právě odlišnost představ „otce zakladatele“ s jeho nástupci často vede ke konfliktům uvnitř rodiny a rodinný podnik zaniká. Tuto skutečnost výstižně popisuje známé přísloví „otec podnikatel, syn světák, vnuk žebrák“.

1 Literární přehled

Problematika předání rodinného podniku podle Benavides et al. (2013) patří mezi hlavní předměty zájmu literatury z oblasti rodinného podnikání, dále Chua a kol., (2003, s. 89). Jedná se o zásadní moment v životě rodinné firmy, kdy z ekonomického pohledu dochází k předání podniku z „otce zakladatele“ na novou nastupující generaci a její participaci na předchozí ekonomické činnosti. Příslušná literatura uvádí, že pouze 30 % rodinných firem úspěšně přežije do druhé generace, a jenom 15 % až do generace třetí, podle Kellermanna a Eddleston, (2004, s. 209) nebo Casillas et al. (2011). Lze tedy vyslovit předpoklad, že při předání podniku nové generaci majitelů lze očekávat vysokou míru neúspěšnosti. Tato neúspěšnost si zaslouží výzkum především ve vztahu ke specifickým českého průmyslu, resp. jeho podílu na tvorbě HDP a jeho historii. Na základě dostupných dat MPO ČR lze konstatovat, že věková kategorie podnikatelů 56+ dosahuje 30% podílu na počtu všech podnikatelů v ČR (viz tabulka 1).

Otázka předání rodinných firem je v ČR vysoce aktuální, neboť mnoho z nich se nachází ve fázi, kdy se majitelé rozhodují, zda a jak svou firmu předat následující generaci (Servus, 2018). Vytvoření úspěšného modelu nástupnictví pro specifické podmínky České republiky,

Tabulka 1 ►

Počet podnikajících fyzických osob (FO) v ČR dle věkové struktury

Věk	Podnikatelé (FO) absolutně	Podnikatelé (FO) v %
Skupina 56–60	200651	9,78
Skupina 61–65	175177	8,54
Skupina 66–70	126538	6,17
Skupina 71–75	73107	3,56
Skupina 76–80	28720	1,4
Skupina 81–85	9202	0,45
Skupina >85	4044	0,20
Uvedené skupiny celkem	617440	30,10
Celkem bez ohledu na věk	2051614	100

Pramen: Počty podnikajících fyzických osob a živnostenských oprávnění dle věkové struktury. (*Ministerstvo průmyslu a obchodu* [online], 2021).

v níž byla podnikatelská tradice znárodněním tradičních českých rodinných firem narušena (Machek, 2017, s. 93), má potenciál přinést nové teoretické i prakticky využitelné znalosti.

Důležitým přínosem provedeného výzkumu je propojení teorie se získanými reálnými poznatky fungování konkrétních firem v oblasti základních složek strategického plánu nástupnictví.

2 Metody

Pro pochopení problematiky řízení nástupnické strategie v praxi rodinných podniků byl použit kvalitativní výzkum. Z přehledu možných metod výzkumu je nutné zmínit metodu skupinového rozhovoru a metodu tzv. kulatých stolů. V odborné literatuře se touto metodou zabývají např. Morgan, Krueger (1997); Ritchie, Lewis (2003), dále Kotler, Keller (2013, s. 136), Eger, Javorská (2005, s. 114), a Hague (2003, s. 234). Majitelé rodinných firem pod vedením moderátora diskutují s nástupci v rodinné firmě o svých zkušenostech

s řízením nástupnické strategie. Cílem metody je získat informace o tom, jak diskutující danou problematiku při řízení své firmy realizují, a následně zobecnění diskutovaných závěrů a zkušeností.

Další použitou metodou kvalitativního výzkumu je případová studie. Metoda zkoumá předem zvolený jev, v daném případě řízení nástupnické strategie v rámci konkrétních firem. Případové studie mají primárně deskriptivní cíl, tedy usilují o zachycení složitosti případu, jeho komplexnosti a dále popisují vztahy v jejich celistvosti. Podstatou případové studie je předpoklad, že důkladné prozkoumání jednoho případu umožňuje lépe porozumět jiným podobným případům (Hendl, 2005, s. 408).

V příspěvku byla použita metoda skupinového rozhovoru a tzv. kulatých stolů. U dostupných primárních a sekundárních zdrojů byla provedena analýza spojená se závěrečnou syntézou. Interní data pocházejí z vlastních zdrojů autorů a externí data z kvalitativního výzkumu, provedeného metodou dotazníkového šetření (n = 200, kvótní výběr). Výsledky je možné generalizovat pouze pro tento kontrolní vzorek. Firmy uvedené v tabulce 2 jsou vybraným vzorkem se svolením k publikování a působností v oblasti průmyslové výroby, obecně na trhu

Tabulka 2 ►

Zkoumané subjekty

Číslo	Název firmy	IČ:	Roční obrat. 2019
1	ARMATURY Novák s.r.o.	07524676	41 mil. Kč
2	Ferostav a.s.	63078937	69 mil. Kč
3	EMERS-ČR s.r.o.	47539470	18 mil. Kč
4	PolyComp ENERGO s.r.o.	27156699	38 mil. Kč
5	Liberecké Kotelárny Höfner s.r.o.	43225381	60 mil. Kč

Pramen: Vlastní zpracování

B2B. Při podrobnějším ohlédnutí do historie vykazují firmy společnou charakteristiku v podobě jejich vzniku v 90. letech 20. století. Otčové zakladatelé spadají do věkové kategorie 56+, otázka následnictví je aktuální pro zachování pokračování rodinné firmy.

Celkem bylo rozesláno 200 dotazníků prostřednictvím e-mailu majitelům firem nebo výkonnému managementu se zkušenostmi s již realizovaným procesem nástupnictví či firmy, které se teprve na předání nastupující generaci připravují. Návratnost z toho byla 166 dotazníků, tj. 83 %. Vzorek byl získán prostřednictvím databáze organizací AMSP, která obsahuje důležitá data malých a středních organizací registrovaných v České republice. Dotazník byl zodpovězen buď členy managementu firem, nebo, v případě menších organizací, přímo jejich vlastníky (respondenti korespondují požadovanému vzorku a jejich odpovědi reflektují pohled vedoucích pracovníků, manažerů a vlastníků). Dotazník byl sestaven na principu dodržování etických pravidel a požadavku na zachování anonymity. Obsahuje celkem 12 otázek rozdělených do dvou skupin. Otázky byly uzavřeného charakteru, umožňujícího buďto jednu odpověď anebo výběr z více odpovědí:

Skupina 1

1. Věnujete se ve vaší firmě rozvoji talentů?
2. Provádíte pravidelné reportování hospodářských výsledků?
3. Provedli jste v posledních pěti letech ocenění vaší firmy?
4. Financování vaší firmy provádíte primárně z vlastních zdrojů?
5. Uvažovali jste o prodeji vaší firmy?
6. V případě prodeje vaší firmy preferujete jednorázovou platbu nebo postupné splácení prodejní ceny?

Skupina 2

1. Uvažovali jste o prodeji své firmy některému z vašich spolupracovníků nebo spolumajitelů?
2. Ukončení vašeho působení ve firmě a převod firmy do nadace či svěřeneckého fondu. Uvažovali jste nad touto možností?
3. Znáte svoji regionální konkurenci a v případě že ano, máte s ní navázané obchodní vztahy?
4. Spolupracujete s konkurenčními firmami jako subdodavatelé na jednotlivých zakázkách?
5. Neočekávané životní situace: úmrtí, nemoc, vážná dopravní nehoda. Je vaše firma připravena na vaši dlouhodobou nepřítomnost?
6. Věnujete se rozdělení firemního a rodinného majetku?

Předmětem zájmu výzkumné studie se staly rodinné firmy se zkušeností s předáním řízení firmy nastupující generaci. Výzkumný soubor je založen na vzorku oslovených firem s nedávnou zkušeností s procesem řízeného následnictví, u nichž zkoumá aktuální společenské otázky v kontextu ekonomického vývoje posledních let.

Výběr rodinných firem byl cíleně zaměřen na firmy se zkušeností s předáním rodinné firmy (proces plánování nástupnictví jako komplexní přístup je ukončen u společnosti EMERS-ČR s.r.o. a Ferostav a.s.), společnosti ve fázi předávání firmy (ARMATURY Novák s.r.o. a PolyComp ENERGO s.r.o.) a firmu, u níž k předání nastupující generaci nedochází, jelikož firma směřuje k prodeji (Liberecké Kotlářny Hölter s.r.o.), viz tabulka 3. S ohledem na příslušnou legislativu a vzhledem k důvěrné povaze údajů je sice uveden věk otců zakladatelů a synů z řad nastupující generace, avšak jména a příjmení nikoliv

Jednotlivé společnosti byly posuzovány ve vztahu k strategickému plánu nástupnictví

Tabulka 3 ▶

Původní a nastupující generace ve zkoumaných firmách

Číslo	Název firmy	Otec zakladatel	Nastupující generace
1	ARMATURY Novák s.r.o.	Aktivní, 56 let	Aktivní, 33 let
2	Ferostav a.s.	Neaktivní	Aktivní, 41 let
3	EMERS-ČR s.r.o.	Neaktivní	Aktivní, 38 let
4	PolyComp ENERGO s.r.o.	Aktivní, 64 let	Aktivní, 36 a 34 let
5	Liberecké Kotelárny Hölter s.r.o.	Aktivní, 62 let	Neaktivní

Pramen: Vlastní zpracování

s cílem navrhnout pro jednotlivé firmy řešení v podobě realizovatelného scénáře budoucího předání firmy nastupující generaci. Návrhy strategického plánu nástupnictví byly rozpracovány z ekonomicko-manažerského hlediska s těmito zřeteli:

- Rozvoj talentů,
- Sledování a zvyšování výkonnosti firmy,
- Ocenění firmy,
- Financování firmy,
- Prodej firmy,
- Příprava na neočekávané životní situace,
- Trusty, nadace a jiné vlastnické struktury,
- Správa a řízení firmy,
- Zachování osobního a rodinného bohatství.

3 Získané výsledky

Diskuse prostřednictvím kulatých stolů vedla k formulování problémových okruhů, u nichž by si měli otcové zakladatelé a nastupující generace odpověď ujasnit ještě před samotným zahájením předávání rodinné firmy:

Otázky pro otce zakladatele:

- Uvažovali jste nad tím, zda se budete podílet na řízení firmy po jejím předání?
- Vybrali jste svého nástupce?

- Předali jste nastupující generaci své schopnosti a dovednosti?
- Předali jste nastupující generaci své kontakty?
- Víte, jaká je hodnota vaší firmy?
- Přejete si participovat na ekonomických výsledcích firmy po vašem odchodu?

Otázky pro nastupující generaci:

- Přejete si převzít vaši rodinnou firmu?
- Jste seznámeni s životním „stylem“ vašich rodičů?
- Prošli jste si v životě firmy alespoň jednou krizí?
- Víte, jaká je hodnota vaší firmy?
- Máte vyřešeny rodinné vztahy?
- Jste připraveni na neúspěch?

Následující tabulka 4 sumarizuje aktivity při předávání rodinné firmy nastupující generaci, sloužící jako podklad k zahájení kulatých stolů; čísla ve sloupcích „Firma činnost provádí“ a „Firma činnost neprovádí“ odpovídají číselování zkoumaných firem z tabulek 2 a 3.

Tabulka 4 ▶

Strategický plán nástupnictví zkoumaných firem

Strategický plán nástupnictví	Firma činnost provádí	Firma činnost neprovádí
Rozvoj talentů	4	1,2,3,5
Sledování a zvyšování výkonnosti firmy	1,2,3,4,5	
Oceňování firmy	4,5	1,2,3
Financování firmy	1,2,3,4,5	
Prodej firmy	2,5	1,3,4
Příprava na neočekávané životní situace		1,2,3,4,5
Trusty, nadace a jiné vlastnické struktury		1,2,3,4,5
Správa a řízení firmy	1,2,3,4,5	
Zachování osobního a rodinného bohatství	1,2,3,4,5	

Pramen: vlastní zpracování na základě tzv. kulatých stolů

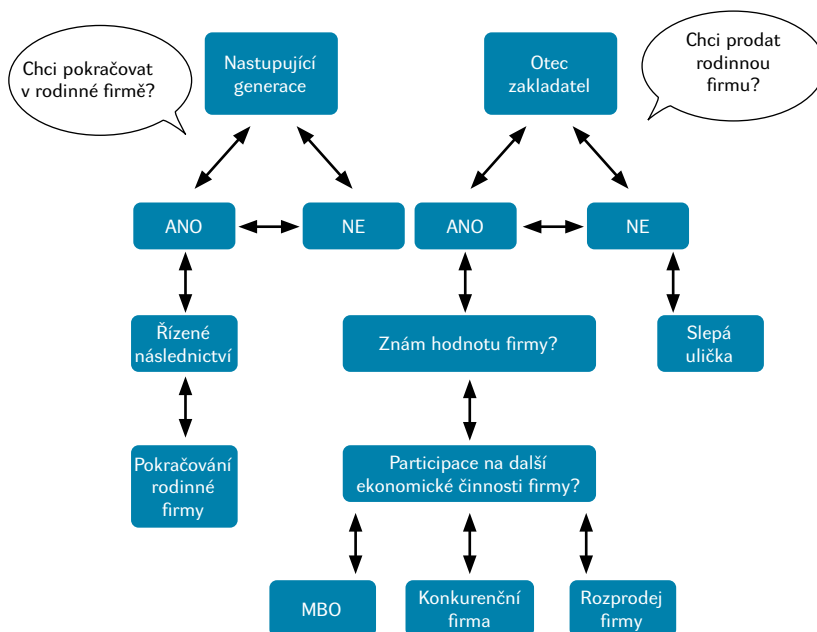
Jestliže se v této základní fázi mezi představy na jedné i druhé straně nenalezne soulad, je na místě položit si klíčovou otázku „Prodat či neprodat rodinnou firmu?“. A v případě kladného stanoviska k ní je třeba začít uvažovat o prodeji firmy nebo o využití prodeje prostřednictvím tzv. management Buy-out (dále MBO) neboli manažerského odkupu firmy. To je situace kdy stávající management společnosti odkoupí kontrolní majetkový podíl ve společnosti nebo celou společnost od stávajících vlastníků, dle Mittoo a Yan (2020). Dále se můžeme setkat s definicí MBO prostřednictvím situace, kdy stávající manažeři firmy jsou motivováni ke koupi kontrolních podílů ve společnosti od původních zakladatelů, viz Kamoto (2017) a Kap-

lan (1989). Tuto věc je rozhodně vhodné začít řešit s dostatečným předstihem.

Na základě diskuse prostřednictvím kulatých stolů je možné vysledovat mnoho motivačních činitelů, které vedou majitele rodinné firmy k rozhodnutí o jejím prodeji. Mezi ty nejvýznamnější, nebo v každém případě nejčastěji uváděné během diskuse patří přesvědčení, že firma je na vrcholu své ekonomické prosperity, obdržení výhodné nabídky na prodej, externí makroekonomické faktory, legislativní regulace, technologická změna výroby, fúze a akvizice v daném odvětví atd. Jako výsledek diskuse u kulatých stolů byl vytvořen seznam následujících problémů, které je doporučeno si vyřešit ještě před zahájením procesu prodeje firmy:

Obrázek 1 ▶

Alternativy budoucího vývoje rodinné firmy



Pramen: vlastní zpracování na základě kulatých stolů

Doporučení před prodejem firmy:

- Plánovat prodej firmy alespoň 2 roky dopředu,
- Věnovat pozornost finančním výsledkům firmy,
- Provést inventarizaci zásob, majetku firmy a zjistit hodnotu firmy,
- Požadovat jednorázový prodej nebo odložené platby kupní ceny,
- Zodpovědět si otázku, jak ovlivní prodej firmy můj rodinný život.

Na základě diskusí u kulatých stolů, otázek položených otcům zakladatelům a nastupující generaci, a v souvislosti s doporučeními před prodejem firmy byl vytvořen obrázek 1, znázorňující alternativy budoucího pokračování rodinné firmy:

4 Diskuse

Schéma budoucího vývoje rodinné firmy vychází z předpokladu zvažování prodeje firmy otcem zakladatelem. Cílem je analyzovat jednotlivé kroky z pohledu sociálního a ekonomického. Sociální pohled odráží výsledky kulatých stolů (viz otázky pro otce zakladatele a otázky pro nastupující generaci). Ekonomický pohled odráží uvědomění si dopadů prodeje rodinné firmy, zda mají získané finanční prostředky plnit funkci doživotní renty, kapitálového zdroje pro nové podnikání nastupující generace, anebo mají být rozděleny mezi členy rodiny. Kromě financí je nutné zmínit i socioemocionální bohatství Filser, M., et al. (2018), které se projevuje v sociálních vazbách, emocionálních vazbách členů rodiny na firmu a obnově rodinných vazeb prostřednictvím rodinné posloupnosti při řízení firmy.

Logická posloupnost je zřejmá: ze strany otce zakladatele a nastupující generace je položena klíčová otázka prodeje či pokračování v řízení rodinné firmy. Schéma mj. řeší konkrétní situaci, kdy nastupující generace

nechce pokračovat v řízení firmy a otec zakladatel je rozhodnut o prodeji. Klíčovou oblastí z hlediska výsledků kulatých stolů je oblast propojující otce zakladatele a nastupující generaci otázkami „*Znám hodnotu firmy?*“ a „*Participace na další ekonomické činnosti firmy?*“. Záměrně zde není uvedena možnost volby ANO x NE, protože výsledkem diskuse prostřednictvím kulatých stolů je zjištění, že ani jedna ze stran nemá v daném čase představu o hodnotě firmy, resp. konkrétní částce, za kterou by firmu byla ochotna prodat. Současně na straně otce zakladatele není zodpovězena otázka jednorázového prodeje nebo participace na další ekonomické činnosti firmy. Je zřejmé, že zde je nutné provést ocenění nejen movitého a nemovitého majetku firmy, ale též dodavatelsko-odběratelských vztahů, know-how firmy, a dalších složek firmy, přínášejících konkurenční výhodu (u rodinných firem se předpokládá existence konkurenční výhody ve schopnostech/dovednostech otce zakladatele), např. Combs, J. et al. (2019).

Poslední částí je otázka participace na další ekonomické činnosti firmy, tedy zda je cílem jednorázový prodej nebo postupné splácení prodeje firmy, a na to navazující způsob prodeje. Z diskuse vyplynuly tři předpokládané způsoby prodeje v podobě MBO, konkurenční firmy a rozprodeje firmy. Využití principu MBO při prodeji firmy je známo, nicméně myšlenka oslovení konkurenční firmy je druhým klíčovým bodem diskuse prostřednictvím kulatých stolů. Premisa vychází z předpokladu, že rodinná firma zná svoji konkurenci (často z řad jiných rodinných firem), neboť se pohybují ve stejných specifických odvětvích. Znalost konkurence je zde vnímána jako příležitost k výběru a oslovení potenciálního zájemce o koupi firmy. Otázka rozprodeje rodinné firmy zobrazuje etapu, při

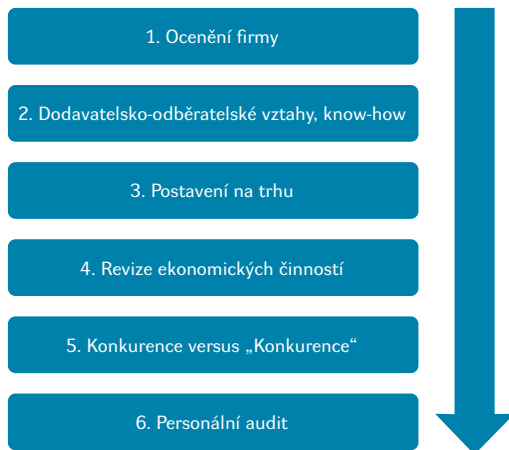
kteří se nepodaří nalézt potenciálního zájemce a nezbyvá než směřovat firmu k prodeji movitého a nemovitého majetku. Ze strany otců zakladatelů je zde kladen důraz na negativní slovní spojení „rozprodej firmy“, neboť tuto formu považují ze svého pohledu za nepřijatelnou, např. Frank, H., et al. (2017).

Pro úplnost jsou uvedeny slepé uličky i navazující etapy v případě pokračování nastupující generace, anebo při nerozhodnosti otce zakladatele ohledně prodeje firmy. Z uvedených pěti zkoumaných subjektů se řešení v podobě prodeje vážně zvažuje pouze u firmy Liberecké Kotlářny Hölter s.r.o., kde nastupující generace nemá zájem podílet se na řízení firmy a vedení uvažuje o prodeji. Vzhledem k povaze interních dat jsou následující informace anonymizovány ve smyslu potenciálních zájemců a konkrétní strategie prodeje firmy. Dlouholeté působení v oblasti investiční výstavby kotelen, kotlů, výměňkových stanic, parovodů a plynovodů umožňuje firmě hledání potenciálního zájemce v řadách dosavadní konkurence nebo přenechání řízení firmy prostřednictvím MBO. Návrh plánu prodeje firmy vychází z dlouhodobého působení firmy na B2B trhu, specifických dodavatelsko-odběratelských vztazích založených na osobním kontaktu a know-how firmy, které nelze přenést bez procesu řízeného následnictví. Prostřednictvím kulatých stolů navržena strategie uvedená na obrázku 2.

Plán prodeje konkrétní rodinné firmy spočívá v navazujících etapách, které mají za cíl provést audit firmy a připravit vedení na ukončení jeho působení ve firmě. Výchozí premisa je zřejmá: na základě ocenění firmy, zhodnocení postavení na trhu a dodavatelsko-odběratelských vztahů získat představu o hodnotě firmy, v podstatě rodinného majetku určeného k prodeji. Oblast know-how je chápána ve smyslu přeno-

Obrázek 2 ▶

Plán prodeje firmy



Pramen: Vlastní zpracování na základě průběhu kulatých stolů

sitelnosti schopností/dovedností z otce zakladatele na nastupující generaci nebo zájemce o koupi firmy. V tomto bodě je především řešena otázka, zda a nakolik je firma závislá na otci zakladateli. Na to navazuje oblast revize ekonomických činností (cash flow, zisková marže, sumarizace pohledávek a závazků, klíčových odběratelů firmy atd.).

Etapa plánu prodeje firmy konkurenci se zaměřuje na hledání potenciálního zájemce o konkrétní firmu. Charakteristickým rysem rodinných firem je jejich úzké profilové zaměření v podobě působení na B2B trhu a známost regionální nebo celostátní konkurence. Jak již bylo uvedeno, znalost konkurence může být příležitostí při hledání vhodného zájemce o rodinnou firmu.

Závěrečnou částí je personální audit. Z diskuse především vyplývá apel na mezilidské vztahy uvnitř rodinné firmy a ochotu zaměstnanců pokračovat ve firmě při změně majitele. Důležitou poznámkou směřovanou od disku-

tujících je upozornění na věkové složení zaměstnanců firmy. Výběr spolupracovníků často odráží životní etapu otce zakladatele a přibližně stejnou věkovou generaci zaměstnanců. Odchod otce zakladatele tak může být prvním z řady odchodů ve firmě a z pohledu diskutujících je proto nutné případný prodej s nimi konzultovat.

Plán prodeje rodinné firmy, který vznikl prostřednictvím kulatých stolů, je procesem přípravy na ukončení činnosti jedné životní etapy. Emocionální složka při rozhodování o prodeji bude klíčovým prvkem úspěchu či neúspěchu prodeje. Panuje obecná shoda diskutujících, že posouzení ekonomické výkonnosti firmy má provádět nezávislý subjekt mimo rodinnou firmu.

Závěr

Tento článek se zabývá tématem diskutovaným na národní i mezinárodní úrovni, a to předání rodinné firmy nastupující generaci. Cílem článku je analyzovat proces předání či prodeje rodinné firmy nastupující generaci se zaměřením na základní složky strategického plánu nástupnictví. Na základě kvalitativního výzkumu v podobě skupinového rozhovoru a kulatých stolů lze konstatovat výsledek v podobě nesouladu představ nastupující generace vůči otcům zakladatelům.

Respondenti v následující etapě výzkumu vytvořili seznam otázek pro nastupující generaci a otce zakladatele, které obě strany považují za důležité zodpovědět před rozhodnutím o pokračování existence rodinné firmy či jejím prodejem. Prodej rodinné firmy v sobě kromě ekonomicko-manažerského rozhodnutí obsahuje i složku emocionální. Často je celoživotní budování rodinné firmy konfrontováno s realitou v podobě představ nastupující generace. Odlišnost představ a reality může vést ke konfliktům nejen uvnitř rodiny, ale i směrem k dlouhodobým obchodním partnerům. Přínosy tohoto článku lze spatřovat v poskytnutí přehledu či návodu pro majitele rodinných firem jaké kroky je vhodné provést před ukončením svého působení v rodinné firmě. Zároveň nastupující generace může využít získané informace k úspěšnému převzetí rodinné firmy.

Cíle článku bylo dosaženo, ačkoliv je nutné zdůraznit limitující faktor v podobě působení firem převážně na B2B trhu a specifické charakteristice tohoto trhu. Přesto tento článek nabízí vhled do vnímání, jakým způsobem uvažují jednotlivé strany procesu předání firmy z otce zakladatele pro nastupující generaci a konfrontaci odlišného způsobu uvažování a jednání.

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Další nová ekonomika nebo civilizační rozcestí?¹

Another New Economy or a Crossroads of Civilization?

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ABSTRACT

Based on Industry 4.0 (a project of automated and digitized production), the so-called Fourth Industrial Revolution is set to bring about a new economy and revolutionary societal changes. However, inflationary overuse of terms 4.0 may cause that they become empty. The concept of 4.0 has particularly psychological and propagandistic importance when the West, after the Great Recession, gains an optimistic vision and a slogan that is easy to remember. “Hype 4.0” is strongly reminiscent of the bubble of new economics (and new economy) of the 1990s. Impacts of the following stage of mass digitization and robotization of, in particular, industrial production are hyperbolized these days. What remains problematic from the perspective of political economy is not only the question of whether this is industrial revolution number four. Is it truly a qualitative civilization change? Using the criterion of epochal innovations of the highest order, the breakthrough of 4.0 technologies remains debatable. With the current digital, global and local, transformation, it would be more precise to talk about another (namely gradual, evolutionary) stage of the information, digital or scientific and technical revolution. This does not mean that an adequate reaction to processes 4.0 is not an important challenge for the Czech Republic. The opposite is true, given the nature of the economy, with the connection to Germany. National initiative Průmysl 4.0 can be seen as a measure of how to respond to the German project called Industrie 4.0 while not losing competitiveness. In the broader sense, platforms 4.0 can be ranked among new forms of theories of capitalism transformation, including visions of post-capitalism transformed by digitization and sharing. Concept 4.0 uses widely catchwords of theories of information, knowledge, digital, network economy, or, more precisely, post-industrial, super-industrial, information, digital, knowledge, network or post-capitalist society. The development

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and application of new technologies are crucial from the perspective of the innovative theories of long Kondratieff waves. Open questions still include the onset of the fifth K-wave and other waves together with the modification of the entire instruments of industrial long waves in the post-industrial of the 21st Century. Since about 2018, the 4.0 bubble has been bursting and (hyper) globalists have been pushing for a green phase. Technologies 4.0 and 5.0 are being pushed in a green direction - greening and digitization are presented as the world's salvation. The Corona crisis can be interpreted as the collapse of neoliberal globalization. The salvation of the collapsing globalism is to become the reformatting vision of the world, in the form of the Great Reset project linked to inclusive capitalism, where the system is to be transformed into stakeholder capitalism.

KEYWORDS

The fourth industrial revolution, buzzwords 4.0, innovation, long K-waves, R. Richta.

JEL CLASSIFICATION

B5, N0, O3, P1

Introduction

The text sees critically specific problems of the fourth industrial revolution (4IR) through a prism of the political economy, including a systemic view of crisis and development. It deals with the content and broader framing of 4.0 processes and their importance for the Czech Republic. Authors ask the key question of whether it really comes an epoch-making, new - digital - economy, and with it a revolutionary change of civilization. It puts technologies 4.0 in the chronology of industrial revolutions with the criterion of epochal innovations of the highest orders and a sequence of long K-waves in the spirit of the innovation logic of their mechanism.

The whole concept of 4IR is often interpreted as another search for the so-called new economy. Platforms 4.0 or nowadays 5.0 can be broadly classified as new forms of theories of capitalist transformation, including visions of so-called responsible (post)capitalism transformed by digitization, sharing, inclusion or greening.

With regard to developments since about 2018, the bursting of the 4.0 bubble, the onset of its green phase with climate alarmism is highlighted. The global corona crisis opens up a space for interdisciplinary discussions on the prospects of neoliberal globalization and the next civilizational crossroads, drawing on the still unappreciated legacy of R. Richta and his successors.

1 Bubble 4.0 and its collapse

The Industry 4.0 (i4.0) technology-based economy is set to be the disruptive new Economy 4.0. However, the term new economy (NE) is far from new. It has repeatedly been used, for instance, when a structural change occurred, such as when new industries came into existence on a mass scale, and old ones ceased to exist. Moreover, we do not hear about this new economy for the first time either. We can mention J. Tobin and W. W. Heller from the 1960s or A. Etzioni (with accentuation of the moral dimension of the economy).

We also already know many new macroeconomics” (such as price models of disequilibrium etc.), “new micro-economics” or “newly-new micro-economics” – as summarizes (Sirůček et al., 2007). What many authors label as another new economic system is behavioral economics. NE is also associated with the expansion of elements of economic democracy in the context of 4IR. The development of automation and robotization should increase inequalities and, for example, employee participation or co-operatives, on the contrary, reduce disparities and stabilize society and the economy. Nevertheless, the most famous is the NE concept and the new economics of the 1990s. It was argued with the growth of productivity as a result of the mass application of information and communication technologies (ICT), the boom of capital markets and the development of new forms of trading, including the presumably new logic of economic thinking. The principles and functioning of the NE linked with the digital revolution (forming a global information society) were to introduce radical changes to all spheres of life. Nothing was to be as before ...

Since 1992, optimistic visions were promoted; according to them, the U.S. was supposed to secure its hegemony thanks to their head start in ICT. These were to become the fundament of the NE where robust growth is linked with low inflation and unemployment. The NE was predicted to evade crises or at least suffer less when in crisis. The popular concept of NE had huge media echo, and many people succumbed to blind faith in their magic. Pathways to the NE were marked out with persuasive slogans that willed expert as well as popular texts: more urgent calling for ICT, open financial markets, flexible companies focusing on innovations, consistent deregula-

tion, investment in education. Education and flexibility (not only of work) were to become commonplace. Even neoliberal prospects of “happy globalization” were related to the ICT in connection with open financial and goods markets. The NE suffered a sharp fall after the bubble formed at the end of the 20th-century burst (Sirůček, 2016a). The Internet bubble refers to a period of the massive boom of Internet companies that did not have a well-thought-out business model and soon bankrupted. Still, they had managed to attract enormous investment (approx. 1995–2001 with its peak at around 2000). The dot.com bubble burst, and Americans realized that lascivious entertainment could not stimulate and maintain any market, not only the share market, forever. In the spirit of a naive belief that economies will be forever driven by downloading music and pornography online.

Today we are witnessing the collapse of another technological bubble. The “second machine age” is to multiply not physical strength but rather mental and help sensationally release the power of the human spirit and creativity. Technologies 4.0 are to be exponential, digital and combinatorial at the same time (Šulc, 2016), and it is claimed that revolutionary changes have started, unprecedented in the history of industrial development (Mařík et al., 2016). We are to be transported to that fantastic future, in “Fairy Tales 4.0”, by digital media as a substitute for the actual human interaction and computers as a substitute for human thinking. All human work is to be done by robots and automation. We will share everything happily and excitedly in our online communities under the infallible supervision and control of artificial intelligence (AI). They say that nothing will be the same again ...

The proverbial icing on the cake should be self-driving cars.

Exalting tirades over the all-embracing digitization, robotization, automation, AI, smart systems and Big Data are trendy. Inflationary overuse of 4.0 terms puts them in peril of becoming empty. We are bombarded by dozens of empty phrases and hollow 4.0 slogans. From 4IR, Industry 4.0, blockchain, Cloud Computing, 3Dprint, Internet of Things (IoT), and virtual reality have become buzzwords. These are media abbreviations – inflated evergreens that the media love. Everyone talks about them, without many knowing what it is (Sirůček, 2018b). Similarly, to the 1990s NE, also 4IR is often interpreted as a natural inevitability that we must adapt to humbly. Like in the 1990s, innovations (and competitiveness) are the indisputable and sacred gods worshipped in the spirit of the cult of continual change (interpreted as the automatic and desired Good), and new technologies are only marvelous and a “cure-all”.

Those who are not 4.0 do not exist... Media have something to write about or even dream about foolishly; politicians finally have an optimistic vision, and academicians obtain grants and projects more easily. This originally German marketing product is successful in having attracted the attention of media, politicians, the general public and people from the academic and research sphere. There are countless strategies, projects, initiatives, prognoses and attempts for theoretic generalizations that are often nothing more than techno-optimistic fantasizing or amateurish interpretation. The entire 4IR concept is still significant particularly on the propaganda and mental level. Do we see an era of wonderful advancement and unique qualitative breaking

point? The reality does not exactly seem so. However, 4.0 activists parrot tirelessly that dramatic changes are to arrive soon or that they are here. As if with the wave of a magic wand, robots are claimed to be soon cheaper and available for everyone.

Evergreen of 4.0 is expert estimates of the loss of jobs due to technologies 4.0 and the creation of new jobs. Differences in predictions that are often plucked out of the air are enormous, as (Winick, 2018) asserts. We have no idea of actual impacts whatsoever, and we only “know that we don’t know anything”, but all of us have read overblown headlines about robots who are soon to take over our jobs. We know them from newspapers as well as bestsellers written by authors such as (Ford, 2017) or (Brynjolfsson, McAfee, 2015). Economists usually remark optimistically that during the previous industrial revolutions, more jobs were created than vanished. Still, there needs to be agreement that most of the work can be automated. Even this argument remains strongly questionable as machines cannot replace invention, originality or human dimension. On the other hand, most people passively accept the results of technological development without understanding it. Making scientists, creative artists, programmers, operators, IT digital specialists and enthusiastic volunteers from charities and befriended networks of the shared economy is probably an impossible task. Thus, there are also views that herald anti-work (Sirůček, 2018a). Work is to become old-fashioned and highly uncreative. Surveys make conclusions from the labour market pointing at the unprofitability of work, discrimination and other injustice. All jobs are to be taken by robots soon anyway. True, supporters of

anti-work point critically to the unemployment problem, but their deductions and conclusions are entirely wrong. Instead of changes and reforms, they are reconciled with the fact that there is a lack of work, and they fabricate evidence that it is no longer necessary. They portray a fabulous picture of the world in the spirit of capitalistic communism. In which the billions of unemployed people enjoy tremendously *dolce far niente*. Including illusions how every single person who does not work uses the surplus of their leisure time conscientiously for committing themselves to creative activities, everyday handcrafts, neighbour collaboration, charity, sports or family and community life, all of that in the environment with markets, money and private ownership that remain holy.

In March 2018 flashed a message that the company Uber brakes its program of development of autonomous vehicles after one of the test vehicles fatally injured a pedestrian. Other firms are considering doing the same. Experts try to make light of it by claiming that new technologies might not be completely ready yet to be put on roads on a large scale and point to the inadequate U.S. infrastructure. They keep repeating phrases of the tremendous potential of new technologies. However, many of them utter a soft remark that there is going to be no revolution but rather gradual and long-term evolution (for AI, machine learning, cryptocurrencies, autonomous vehicles). Even Americans have started realizing that Facebook is no substitute for normal human relationships but a huge commercial experiment and lucrative business that is aimed at tracking their behaviour. And the fact that cars cannot magically be driving by themselves. Furthermore, within

a few years, fully self-driving cars will not dominate the transport segment. Even many adolescents, regarded as eager social network users, take time out from these. Digital detox is not only spread among young people. The enthusiasm for AR devices that were meant to replace mobile phones and computers is also lost. As the cryptocurrency fever ceases to grip the world, more and more investors are leaning towards the view that the bitcoin bubble may not burst, but it must be corrected. Dramatic fluctuations in the price of bitcoin are also being interpreted as a harbinger of a significant global crisis. The bitcoin revolution has been postponed indefinitely. The chaos contributes to this in cryptocurrencies and the efforts of governments to regulate these. Cryptocurrencies were supposed to overturn the old analogue world, but even this commodity proved to be fundamentally dependent on capitalist market logic.

Even the new world of blockchain did not lead to the extinction of banks. Phrases about the so-called knowledge society are funny in the face of reality, where non-professionalism, semi-education, and under-education dominate and real education becomes a “dangerous provocation” (Liessmann, 2018). The initial hippies’ enthusiasm for a shared economy subsides. Also, here, it is primarily a brutal economic dictate. The popularity of sharing is based on tax avoidance and low cost by circumventing the rules and investors’ holy faith. An important role in NE 4.0 plays an increasingly visible free-loading, at random, for example, on copyright. Social networks as a symbol of the times that are beginning to lose their charisma in Europe and America. The diversion of investors is apparent not only in cryptocurrencies but also in technologies.

But technological dominators are powerful, and their profits are still astronomical. Thus, although there may not be dramatic stock exchange shocks, the greatest boom in technological illusions is very probably already behind us. Investors are gradually beginning to sober up from inappropriate techno-optimism. At the same time, the scarecrow of the developed world is becoming more and more evident in the form of a long-term slowdown in growth – a threat of secular stagnation which also includes the negative trends of a slowdown in productivity growth (Janáček, Janáčková, 2018). Which does not correspond much to the cheering NE 4.0 slogans. Will pass the standard argument that the effects of fundamental technological changes, resp. generally applicable technologies (such as the entering of computers since the 1980s) will be reflected on productivity over a longer period? So, the full benefit will come only after a delay? However, ICT has been spreading faster than, for example, the use of steam energy and the acceleration of development is also one of the traditional mainstream arguments ...

The media and marketing carefully pampered by trends such as IoT fashion praising or AI science fiction imagination create the impression that a revolutionary and dramatic revolution is taking place. However, macroeconomic figures, for example, on productivity developments, even in the light of new secular stagnation, often tell us something else. Nor has the economic cycle disappeared, although it is distorted and modified thanks to state interventionism when the crises created by states themselves are also coming. For several years now, there has been a growing warning of another economic and financial crisis, more precisely of a new wave of the

unfinished and unresolved Great Recession. Which resembles an ominously waiting sleeping volcano. It is recalled that the financial system is now more indebted globally than ever before. Others predict that capitalism may soon be swept away by the super crisis, to be the “mother of all crises”. What happens next? The predictions are very different. Will responsible and inclusive capitalism be born? Or will non-capitalism reign? Cyber-socialism? Resets a global or resets a local? Will there be a refeudalization?

The term techlash (technology + backlash) became a global word in 2018. In 2019, the 4IR phenomenon did not occupy the media as much as before. However, it does not disappear completely. Climate alarmism or electromobility hysteria can be interpreted as the next phase 4.0 - the green stage (Sirůček, 2020a,d). E.g. the European “green plan” is intended to be the answer to the 4IR challenges. It is a progressive and global topic, a magical topic that no one understands, and which at the same time opens up promising economic opportunities for strong players. Progressive climate hysteria does not threaten or question neoliberal capitalism; on the contrary, it gives it another chance and strengthens it. Even in this context, one can speak of progressive neoliberalism as another phase of politics and ideology. In the first place, however, it is a huge business. Ecologically so-called “rainbow” technologies are being developed mainly by Germany (and looking for who will pay for it all) and the USA. Other global buzzwords 4.0 are beginning to include concepts such as green (“smart”) growth, decoupling, or the fashion projects of the circular economy.

The concept of stakeholder capitalism in the spirit of (Schwab, Kroos, 1971), appeals to

the responsibility of business and innocuously rebukes the neoliberal doctrine for inequalities, financial speculation and the use of ICT and mobility for new forms of power and domination, is also dusted off. It should be a reform of capitalism from within, made by the capital itself in its market space, and it does not need state intervention to do so. It is a management project with reliance on market principles and a distorted vision of people only as passive consumers.

Green phase 4.0 is not a transition to the new technological order. The interests of multinational corporations remain key. These seek to maintain the status quo even with the help of a “green religion” and targeted inhibition of the processes of new industrialization. These are processes associated with new global and international competition as well as national-technological protectionism in the spirit of the doctrine of economic nationalism. They prevent positive changes and the emergence of really useful high-tech. When, for example, instead of hydrogen, electric cars are supported. Bubble 4.0 is bursting, and so (hyper) globalizers are looking for other ways to save and sustain neoliberal globalization. Globalizers still splash out confident promises about labour-saving technological utopias. They mask the collapse of the “contrivance economy”, based on shadow financial machinations, accounting manipulations, speculative statistics and advertising propaganda, with reactive money in the form of computer records. One of the key mechanisms of madness is devising technological solutions to non-existent problems, on which many 4.0 technologies build.

The push for a green business is to be enabled by the COVID-19 pandemic. According

to (Breque et al., 2021), the goal is a “new normal” with a more competitive, sustainable and greener European industry. The means is to be a new wave of innovation to be managed. “The ‘double transition – green and digital – is to include redesigning economies, updating industrial policies and investing in research and innovation. The Industry 5.0 project complements the Industry 4.0 paradigm by driving research and innovation towards a sustainable, resilient and people-centred European industry, shifting the focus from shareholder-only value to value for all stakeholders (stakeholder capitalism). It is a response to the challenges of the coronavirus crisis and the ambition to make Europe the first climate-neutral continent.

2 Old and new theories of the transformation of capitalism

Technologies 4.0 are usually related to the current stages of digitization and automation in the sense of another groundbreaking technological revolution with immense impacts on labour markets, economies, societies and humanity as such. 4IR is to be carried on the wings of industry 4.0 (i4.0), supported by Industrie 4.0 or Průmysl 4.0 projects. Concept i4.0 (more extensively 4IR, often also work 4.0) is based on the document presented at the Hannover Fair (2013), where the Industrie 4.0 platform was launched (Kagermann et al. 2013). The basic vision of the German government about the industry development occurred in Hannover in 2011 when it was a concept that was part of High-Tech Strategy with a connection to the research platform Smart Factory (2005). In October 2012, the federal government established a workgroup i4.0. The German government funded the project with the participation of companies such as Siemens, Bosch and Volkswagen. The government and private

companies joined in a common effort to promote intensely and with a specific goal industrial technologies and household automation. They aim to stir demand for new technologies and speed up robotization and fully automated control systems. Later, other European companies and countries joined in and gave nascence to a new phenomenon which, sometimes almost hysterically, provoked on a large-scale discussion about the revolutionary nature of automation, digitization, robotization. Besides Germany (where there are several other initiatives at the same time), some other countries have similar projects: (Mařík et al., 2016) mentions around thirty projects in fourteen European countries, including national, regional and all-Europe initiatives. In the U.S., there is Industrial Internet (2014), and since 2015 there has been a platform Smart Manufacturing Leadership Coalition etc. Some components of 4IR, or i4.0, start to be used by Asian countries in order to strengthen their competitive advantages. Programs aimed at increasing their competitiveness are implemented in China, South Korea, Japan or ASEAN countries (ASEAN, 2017). Responses in the Czech Republic include many projects, documents, alliances and platforms with National Initiative Industry 4.0 (Národní iniciativa Průmysl 4.0) at the head, whose outputs include texts by (Mařík et al., 2016).

A lot has been written about 4IR, but there are only very few stimulating texts for an academic economist. Literature review both foreign and domestic (Sirůček, 2018b, c) shows that the vast majority of texts 4R, respectively, i4.0 technologies remain popular, uncritically propagandistic or naively utopian. In the case of more serious titles, the materials tend to be very industrially and technically oriented, focusing on technological and ITC aspects and

neglecting the context of others - managerial, organizational, economic or social challenges. Initiatives such as Industrie 4.0 or Průmysl 4.0 also emphasize technical aspects, while other aspects, e.g. social ones or concerning management, are usually ignored. Moreover, there is no generally accepted definition of 4.0 processes or any more profound theoretic description of their substance. At the same time, the texts on 4IR swear its revolutionary character and impacts, especially outside the industry. Although, they primarily focus on the industry. Technologies i4.0 have an immense impact not only on the economy, but they should also lead quickly to social revolution and form Society 4.0 or 5.0 (Staněk & Ivanová, 2016, 2017). It is supposed to be a “fundamental existential challenge”, “unique opportunity”, and “civilization change”, and nothing is to be as it was before.

Why did the 4IR phenomenon actually appear at the beginning of the second decade of the 21st Century? Do we see a fundamental breaking point (or a shift from quantity to quality)? Especially when we take into consideration the fact that the development of digital communication, automation or robotization has been ongoing for many years and rather continually. Or, were there no favourable conditions in the first decade of the 21st Century or social demand? Alternatively, was it because the “historical field” was not cleared? Last but not least, there was no project (not even a striking, fitting and easy-to-remember slogan or catchword). It would summarise possibilities of new technologies, directions of their further development portraying the optimistic vision of where the West was heading in a wider context. Therefore, there is the Industrie 4.0 initiative and the entire 4IR concept. It is necessary

to show that Western Europe is not a “tired empire” and that it is not committing “suicide” in a live broadcast. After the frustrations linked with the Great Recession, it is vital to restoring the deficient faith in the global capitalistic system. Philosophy 4.0 is to penetrate the thinking of the entire society since “Fourth industrial revolution is especially in people’s mind” (Mařík et al., 2016, p. 232). Therefore, also the main tasks of the Czech initiative Průmysl 4.0 include having a big, appropriate and explanatory campaign. In the spirit of Špidla’s motto, “There are enough resources”, there is a statement that: “There are enough resources, but they need to be used well and to good purpose” (ibid, p. 232). It is not about technological changes, objective development trends, but especially about “revolution in thinking”...

The entire 4IR concept is skilfully larded with poetic declamations of the revolutionary nature of technologies 4.0 and it makes use of notoriously known phrases of economic concepts from information, knowledge, digital, network and other spheres that belong to dozens of interwinding and complementing social-economic theories of capitalism transformation (Sirůček et al., 2007). According to these, the capitalism of the 20th Century, especially after World War II., fundamentally changed and transformed. The concepts of transformation of capitalism can be divided into old theories (approximately until the turn of the 1980s and 1990s) on the one hand. And on the other hand, new theories already reflecting the collapse of the socialist world system and the contradictions of the 21st Century. For the old ones, it is possible to recall theories of managerial order, the democratization of capital and revolution in pensions

(including theories of the state of general welfare), mixed economy or convergence. Other forms are represented by industrial and post-industrial society theories or different variants of the information society, where the sources are recapitulated, e.g. by (Sirůček, 2019b, 2020b).

Regarding the consideration of the information society (Webster, 2006) distinguishes several groups. The first projects an entirely new society – post-industrialism (D. Bell and “legions of his followers”, including the Tofflers), postmodernism (J. Baudrillard, M. Poster, P. Virilio), theories of flexible specialization (M. Piore, Ch. Sabel, L. Hirschhorn), theories of development based on information (M. Castells). The second group emphasizes continuation and builds on existing theories – neo-Marxism (H. Schiller), regulation theory (M. Aglietta, A. Lipietz), theory of flexible accumulation (D. Harvey), reflexive modernization (A. Giddens), theory of the public sphere (J. Habermas, N. Garnham).

More broadly, the conglomerate of transformation theories can also include the reformist concepts of Keynesians, technocratic theories of institutionalists, approaches of neo-institutionalists, or, for example, the theory of self-liquidation of capitalism of J. A. Schumpeter, or considerations of his followers (Sirůček et al., 2007). A transformation theory of its kind is also the concept of the great transformation of K. P. Polanyi, from which, for example, the corpus draws (Atzmüller et al., 2019).

In a more general context – and across disciplines – many socio-economic schools and approaches discuss the global reorganization and transformation of capitalism. These are theories of development or modernization (W. W. Rostow), world-systems theory (I. M. Wallerstein), the theory of dependence and

interconnectedness of economies, the theory of flexible accumulation, the theory of deindustrialization, the theory of hegemonic instability, the theory of the transition to disorganized capitalism and/or the reflections on capitalism by R. B. Reich, etc. There are also various interpretations of the transformation of capitalism in Western sociology and elsewhere, for example, regarding its transition from Fordism to post-Fordism since the 1960s. The reactions of the Schumpeterian, or rather neo-Schumpeterian, from the positions of the concept of flexible accumulation, regulation theory and Western so-called Marxists are recapitulated by (Pavlinek, 1997). In addition to dozens of socio-economic concepts of the transformation of capitalism, various theories of the transformation of socialism into capitalism have also been current since the 1990s.

A topic for a separate study is the fulfilment or non-fulfilment of the theories of the transformation of capitalism, where we can point out, for example, the theories of convergence, which were very popular in the 1960s and 1970s. Dozens of variants (including industrial or new industrial society) proclaimed a gradual convergence due to the internal development of both capitalism and socialism and the emergence of a hybrid (usually with the advantages of both systems while eliminating the disadvantages). And this is mainly on the basis of the development of science, technology, or new technologies. The convergence of capitalism and socialism is considered by R. C. F. Aron, W. S. Buckingham, J. Tinbergen, or J. K. Galbraith (Sirůček, 2019b). With the demise of the Soviet bloc, the concepts of convergence seemed definitively dead. Apart from the specifically Chinese model and other exceptions, only capitalism exists. Convergence theorists (including

Z. K. Brzezinski) believed that convergence would take place by the resulting hybrid taking the best of both systems. However, today can be seen as the realization of the convergence of “communism and capitalism”, taking the worst of both systems (Klaus et al., 2020).

According to transformation theories, the modern and postmodern capitalism, resp. post-capitalism (P. Mason, P. F. Drucker) was to “revive” and become an industrial society (R. C. F. Aron, J. K. Galbraith), resp. post-industrial (D. Bell), technotronic, cyber-electronic (Z. K. Brzezinski), information, resp. super industrial (Mr and Mrs Toffler), network (M. Castells, J. Rifkin), digital (D. Tapscott) or knowledge society (P. F. Drucker). Alternatively, it should be a system transformed by the managerial revolution (J. Burnham), convergence processes (J. Tinbergen, J. K. Galbraith), the “third way” of the market economy (A. Giddens) or digitization processes (P. Mason).

What belongs here are also models of “natural capitalism” (a market-profit system that is environment-friendly and does not exploit it, when this type of capitalism is to start a new industrial revolution bringing about another NE), the concepts of the 1990s NE concepts mentioned at the beginning as well as thoughts about “capitalism without capital” under the influence of entering “immaterial world” (Haskel, Westlake, 2017). What should be dominating here is the immaterial economy, which is supposed to be another of many forms of the mythical NE. We can also mention the concept of “Capitalism 4.0” (Kaletsky, 2010) that appeared between the onset of 4IR. The concept accentuates the ability of capitalism to adapt. It refers to radical changes concerning the management of society and the economy. The principal differences

have always resided in relationships between the market and government, between the economy and politics. In “capitalism 1.0”, the government did not deal with the market at all. WWI and the Big Crisis changed the situation radically and “capitalism 2.0” originated. Other profound changes occurred in the 1970s with “capitalism 3.0” in the sense of market fundamentalism. That means that between the 1930s and 1960s, it was believed that capitalism could not work without strong government intervention. It was thought that the market is usually wrong and that democratically elected market-oriented governments are usually right. In the 1970s the situation turned around. It started to be discussed that governments were always wrong and the market was always right. The current stage should be “capitalism 4.0”, where both the market and governments are often wrong. This type of capitalism should be based on private ownership and market incentives, while it needs to cope with the fact that governments and the market have failed. It is necessary to find and establish new institutions correcting mistakes made by the market and governments, with a vision of a path toward “capitalism 5.0” that should be linked with global management.

Many authors dream of miraculous transformations of capitalism under the influence of technology. In the concept of post-capitalism, according to (Srnicek, Williams, 2020), the utopian about of 21st century technology is no longer to be shackled by the capitalist imagination. The emphasis is usually on developing information and digital technologies that are supposed to change everyone’s lives positively toward more sharing and cooperation, curbing the desire for power and ownership, toward more empathy and responsibility.

Markets are to turn into a “new co-operative space”. Goods and information are shared here between people without any control from above, communication and empathy are enhanced. Markets change into an “ecosystem”, and the “age of empathy” arrives; technologies amplify the creativity that walks hand in hand with mature and responsible behaviour, building interpersonal relationships that are not based on control and possession but on support and collaboration. In effect, possession is to be replaced by access to databases, services and sharing. Boundaries between the real world and the world of the Internet are to be wiped away. The crisis of the global economy linked to oil is to end. Building new infrastructure is expected to create millions of jobs and thousands of business opportunities. Power democratization should contribute to a society’s shift from authoritarian structures to collaborative ones (Rifkin, 2000, 2011). Other authors (Mason, 2015), concerning the mix of slogans about information, digital, network society and digital revolutions are described by “idyllic post-capitalism”. With a new man who deals consciously with more and more pleasure with non-monetary and welfare activities at the expense of his profit.

Updated theories of capitalism transformation include cool concepts of a shared economy. Capitalism no longer should be capitalism because, in shared platforms based on network structures and digital technologies, possession is unimportant. Even many companies no longer follow the capitalistic principle. People working for them do happy what they can. They help each other selflessly, collaborate, and share everything consciously while providing services one to another. How digital platforms might work is the pivotal

component of the “capitalism of platforms” (Srnciek, 2016). This subsequent development stage is the logical consequence of a system searching for new sources for generating profit. More sober voices restrain uncritical enthusiasm concerning the revolutionary nature of the shared economy structure that does not surpass capitalism (or possession) and is no responsible “green” project, but rather lucrative business for mighty global players. Digital capitalism of platforms is even less humane and even more estranged, while it removes hard-won certainties and work standards, and they revert capitalism to the 19th Century. Instead of stable jobs and traditional employment, people earn their living in the so-called “custom economy” with one-off jobs that are primarily arranged or implemented through digital platforms, including networks. Freelancers need to search continuously for new and new jobs. They need to “juggle” many platforms, requalify on their own, and have nothing granted (Sirůček, 2018a).

However, less optimistic concepts are emerging, such as tracking capitalism (Zuboff, 2019). The transformation of industrial capitalism into financial capitalism is to bring about a permanent crisis and the rise of tracking capitalism as the third modernity when unrestricted access to information should be a mere manipulation.

Various concepts of “green” capitalism can also be critically discussed. Thanks to the fantastic potential of new technologies, the visions of fairy-tale solutions are far from being a product of up to 4IR. E.g. the four in the title of the work (Weizsäcker et al., 1996) signalled that the same result should be achieved with a quarter of the consumption of raw materials

and energy. The book was much-vaunted by ecologists for a while. But its arguments and recommendations did not succeed in economic and political practice. E. U. Weizsäcker claims that the project was politically naive and considers Factor 5 to be relevant for the present. He also argues with Kondratiev’s long cycles. V. Kondratiev cycle has been going on since the 1980s under the sign of ICT and biotechnology. The 6th long-term K-cycle is about to start, which is supposed to be “green”. While this remains highly debatable and problematic, it is possible to point out some links with current EU or US green plans (Breque et al., 2021).

3 4 IR as another stage of the informational or digital revolution?

There is considerable confusion in terminology, which is sometimes even intentional to cover up real goals and real problems and make the real situation even more obscure. The NE concept was most often mentioned in connection with the 1990s. These days the NE usually refers to strategies such as Industry 4.0. However, these are rather economic-political concepts, not theoretical ones. The NE category, Industry 4.0 and digital economy, correspond rather with an examination of the effects of technological advancement on the level of applied research, not the basic one. Therefore, on the theoretical level, some prefer to use categories such as knowledge economy, the “second age of machines” or 4IR. However, it is not a rule, and terms are “juggled” in different ways (Sirůček, 2018b, c, 2020a).

There is chaos even when dating (and terminology) concerning technological, industrial, scientific, civilization and other revolutions. There are various periodizations of history, for instance, by the prevalent activi-

ties such as dividing the society as pre-industrial (agriculture), industrial (industry) and post-industrial (services) with references to R. C. F. Aron, D. Bell and A. Toffler. Likewise, Toffler's scheme of "three civilization waves": An agricultural society of the "first wave", industrial society of the "second wave" and super-industrial, or information, a society of the "third wave" (Sirůček, 2020b). Knowledge economy, or by knowledge controlled, refers to systems based on taking advantage of knowledge or products with advanced technologies in order to create values, products or services. Thoughts and innovations drive this economy. Also, the term learning society and knowledge society is used (P. F. Drucker) with characteristics in the form of knowledge, know-how and education. Nowadays, it is fashionable to talk about education 4.0 perceived as education directly for the needs of i4.0 and labour markets in general. The knowledge society is to bring about a historic turnabout: what becomes the predominant mode after agriculture, industry, and services is the production of knowledge. Historic pillars are formed by theories of the information society (facilitation of production and broadening of new findings via ICT) and concepts of post-industrial or super-industrial society with references to D. Bell, Y. Masuda or A. Toffler and J. K. Galbraith.

4IR is often defined in the sense of the current digitization trends and the relevant automation, while some operate with the term digital economy and society. However, catchwords about the digital economy were promoted by D. Tapscott (Tapscott, 1999) already in the 1990s. This is supposed to refer to the revolutionary way of allocating resources using IT and ICT. These are processes closely

linked with the society and information revolution. However, this is how the concept of digital economy was presented under the NE in the 1990s when terms such as Internet Economy or Web Economy were often mentioned. Digitization is to transform considerably, especially industry that is based on communication. However, texts about 4IR usually emphasize that it not be mere digitization. Moreover, they predict much more extensive changes ((Kagermann et al., 2013), (Mařík et al., 2016)) and faster than it was expected.

There are also broader considerations about civilization revolutions when we are now to be witnessing - after Neolithic and industrial revolutions - the beginning of the digital revolution. It is not to change the current world but to create an entirely new, virtual world. Technological innovations drive the digital revolution with six Ds: the "6D" revolution (Kysilka, 2015). It is about: 1) digitization, 2) dematerialization (digital innovations free us from the industrial and biological matter), 3) demonetization (digital innovations are cheap or free of charge), 4) democratization (digital innovations will be accessible for anyone, which starts their mass dissemination and globalization), 5) "deception" of digital innovations, they first seem to be unaperspective and only when "the kinks are ironed out" they gain "imperial power" and 6) through the above mentioned they become dominant and disruptive when they eliminate material, analogue and biological past (and change also our habits, behaviours, etc.). Is the 4IR by a digital revolution (the third industrial revolution was believed to be a digital revolution, too) or just its next stage? Alternatively, is the 4IR by a civilization revolution but third in line?

(Schwab, 2017) describes 4IR as fundamentally different from three previous industrial revolutions (IRs). 1IR (18th and 19th Century in Europe and the U.S.) brought a transition from agrarian and rural societies to industrial and urban ones. What played the central role was developing the steam machine that had applications to the textile industry and railways. 2IR (1870-1914) was a period of growth of the existing industries and expansion of new ones (production of steel, oil and power, and electric power for mass production). Advancement brought the telephone, bulb, phonograph and combustion engine. 3IR started around 1980, and it lasts until these days. It is a digital revolution using analogue electronic and mechanical devices. Progress is demonstrated with the personal computer, Internet and ICT. 4IR follows the digital revolution, and it takes place in the sign of major breakthroughs when the main part is played by robotics, AI, nanotechnology, biotechnology, IoT, 3Dprint, autonomous cars. The World Economic Forum uses the following scheme: 1IR (1784) – steam, water, machine production of devices; 2IR (1870) – a division of labour, electricity, mass production; 3IR (1969) – electronics, IT, automated production and 4IR (?) – Cybernetic-physical systems (CPS). Popularizing texts operate with the following sequence of industries: 1.0 (steam engines), 2.0 (assembly line production and electrification), 3.0 (IT and electronics) and 4.0 (intelligent interconnection of networks). As for dating of the four stages of IRs, the end of IR 1.0 is generally accepted to be the end of the 18th Century, with IR 2.0 it is the 19th Century, with IR 3.0 it is the beginning of the 1970s (also “age of digitization, automation and robotization”) and with IR 4.0 it is present

(2011 or 2013, also “age of smart factories of the future”). (Šulc, 2016) sees 4IR as the “digital age” that started at the turn of the 1980s and 1990s. He refers to the first three IRs as to the “first age of machines” and to the fourth IR as to the “second age of machines”.

(Mařík et al., 2016) mentions three IRs that were “caused by the boom of steam-driven production machines driven by steam, the introduction of mass production with the use of electric power or electronic systems and computer technology in production” (Mařík et al., 2016, p. 21). At present, 4IR is supposed to be taking place, not changing just industry, but completely everything. “The phenomenon of today is interconnecting the Internet of things, services and people and the relevant enormous amount of data generated by communication machine-machine, human-machine or human-human” (ibid.). That means there is another information revolution. However, it is already taking place, is it not? Another stage? However, D. Šmihula speaks of the present day as the “post-information wave”. At the same time, he dates the “information-communication revolution” back to 1985-2000 (and frames the “wave of information and telecommunication revolution” to 1980-2015). Since 2015, he has predicted the start of the technological “post-information revolution”, or “biomedical-hydrogen revolution”. The model uses industrial history and six long waves of capitalist economies that were all started with the technological revolution (Šmihula, 2009, 2011).

Sometimes the information revolution (also information-communication revolution) is mentioned as one of 2IR or 3IR. Others consider it an independent industrial revolution (or rather technological, precise) number four. It began in the 1970s (new IT, 1971 – the

invention of the chip, after 1975 – new industrial biotechnologies, new material processing methods, and search for new energy sources). Others link its start with the end of the 1960s or with the 1980s in connection with the dating of the contemporary globalization (Sirůček, 2016a). Therefore, 4IR is seen as another stage of the information revolution. Alternatively, is it a separate digital revolution number five?

Alternative concepts divide IIR into the first stage (approx. 1770–1870) and second stage (last third of the 19th century–WWII), with 2IR (scientific and technical) divided into first “atomic” stage (1940s–1970s) and second “information” stage (from the 1970s). 4IR could thus represent the third, “digital” stage of 2IR. Three stages of industrialization or three stages of scientific and technical revolution (STR) to be precise are sometimes identified in a broader sense: 1. STR (steam engine), 2. STR (electricity), 3. STR (IT and ICT). In this context, 4IR would be a follow-up to 3 STR. We can also find authors suggesting further links between technology i4.0 and industrial revolution number three, not four. For example, J. Rifkin (Rifkin, 2011) writes IIR – 19th Century, 2IR – 20th Century, 3IR – now (ITC, Big Data, 3Dprint, new energetic modes and resources, a revolution in the sign of hydrogen, etc.). Others, however, connect technology i4.0 with technological age number six (Pérez, 2010). Previous technological cycles-ages were made up of: The Age of the industrial revolution (1771), Age of steam and railroads (1829), Age of steel and heavy machinery (1875), Age of oil, electricity, cars and mass production (1908), Age of information and telecommunication technologies (1971). F. Valenta (Valenta, 2001) predicted a second technological revolution – the transition from macro-technol-

ogies to micro-technologies (as order 9 of innovation). Moreover, he linked the arrival of the actual NE (together with fifth long K-waves) at the turn of the 20th and 21st Century with the arrival of micro-technologies starting with microelectronics.

4 Industry 4.0, not epochal, but still important

4IR does not have to be number four, but number two, three or even six as well. Moreover, is it a groundbreaking revolution or just a stage of a revolution that is already taking place? What are the criteria of chronologies of industrial revolutions and the like? They are sometimes unclear hazily vague. In the context of the innovation logics of K-waves, we shall apply the criterion of epochal innovations below. These are innovations of the highest orders, radical innovations in the spirit of F. Valenta (Valenta, 2001), or basic innovations (giving rise to new industries as specified by G. O. Mensch) and main innovations as defined by J. A. Schumpeter (Sirůček, 2005, 2016a). Such innovations (their clusters) cause long waves, while we can identify the relevant carriers. At the same time, every K-wave does not necessarily need to correspond to the entire revolution. Are technologies i4.0 epochal? We can see the disruptive nature of some of them, but their revolutionary epochality remains questionable.

The Internet was predestined to change everything in the 1990s. It had and still has enormous impacts, but is everything completely different than before? For decades we have been waiting for the miraculous impacts of biotechnologies or nanotechnologies. Even before 4IR, we could hear that people would soon be able to print whatever they like using 3Dprinters. Is there anything

so revolutionary that 4IR argues with? Let us ignore the uncritical fantasizing about divine AI or human immortality evolutionarily linked with machines. We can also add that “misguided” technology visionaries (such as R. Kurzweil) are at the same time ruthless businessmen. I4.0 is particularly a concept of automated and digitized production in connection with “smart” factories where production should adapt to the product. The most attractive terms used by the media include “smart” cities, “smart” device, transportation and the like. Comprehensive and system automation, digitization and robotization of production and services taking advantage of AI, Big Data, cloud computing, the Internet of Things and Services (IoT and IoS, more broadly IoE as the Internet of Everything) are used.

More specialised texts accentuate CPS (Andelfinger & Hänisch, 2017). “...in connection with the 4th industrial revolution we may hear people speak of cyber-physical-social revolution that causes dynamic ... interaction ... between cyber-virtual systems of the physical world and social systems” (Mařík et al., 2016, p. 15). The core of Průmysl 4.0 is supposed to lie in “profound evidence-based industrial integration ..., based on information and cybernetic technologies” (ibid., p. 17). The impacts are claimed to be revolutionary and society-wide include online interconnection, social media, shared economy, cybernetic safety, etc.

Significant impacts of 4IR, especially in the sense of comprehensive automation in production demanding labour intensiveness, should include shortening manufacturing and supply chains, organizationally and geographically. Technologies i4.0 give hope for the renationalization of economies, and they can greatly contribute to localization and decentralization.

There are also more prediction of “the end of the golden age of globalization and world trade”, and terms such as deglobalization or disintegration have become common by now. This is linked to another need of labour (especially low-cost labour, which may have impacts particularly on Asia), further, drop in the share of labour costs and growth in the importance of transport costs. Production localization is expected to grow stronger. Production is expected to move closer to consumers, and on the global scale, production is predicted to return from developing countries and newly industrialized ones back to developed countries, which is taking place already. Even neoliberal globalists realize that the idea to move production from parent countries elsewhere probably was not the best idea. Or at least not a solution that would last forever, including the illusory notion that Americans will be the managers and designers and Asians the hardworking bees that will do nothing but manufacture. There is a belief that the entire country could only divide grants in the Czech Republic, and nobody would need to work anymore.

It is necessary to adopt a much more sober view of the impacts of sharing through network structures and mitigate uncritical enthusiasm for economy “uberization”. That means a shared platform, finances (fintech revolution, InsurTech) and the entire society with extensive networks where people should be consumers and users at the same time. The difference between the employer and employee is to disappear, and possession should be marginalized. Even such platforms usually need rules and regulation. Even the arrival of participation and universal extension of the space for economic democracy will not

be automatic in the new “age of networks” as some dream about it.

It is fashionable to invoke, almost reverently, the sphere of emerging industries that include the entire digital economy as well as “cultural and creative industries”. These are to be industries based on digital technologies or forming new value chains. Often, poetic phrases disguise the lack of content and, in many cases, the parasitic nature of superfluous occupations. According to (Florida, 2002), it is the so-called creatives who are to be the leading creator of wealth and improve the level of nations. In reality, however, these “wealth makers” usually do nothing at all. They deal with redistribution or provide service. After all, who (which profession) is really important for society the coronary crisis clearly showed. Who lacked the so-called creatives, show business or so-called celebrities? A significant part of the home office can also be interpreted as meaning that it is redundant for society, and in many cases even harmful with a markedly parasitic character. The pandemic has increased the vulnerability of deindustrialized service-based economies. It confirms that the advent of the post-industrial era is far from benefiting everyone. New social risks are emerging and intensifying, combined with the erosion of old safeguards of cohesion, such as functioning labour markets, the welfare state and cohesive families (Sušová-Salminen and Švihlíková, 2020).

Also, last but not least, it cannot be omitted that technological progress needs something material, including actual physical infrastructure. Research and development cannot do, from a certain point, without a factory. The importance of intangible assets has been growing since the beginning of the 20th Century. Nowadays, the importance of intan-

gible investment (in research and development, software, design) is on the rise. However, it is foolish to conclude that the material sphere (including “bricks and iron”) is no longer needed at all.

Technology development affects almost all aspects of human activity and life, but is the above really so epoch-making? Rather than a groundbreaking revolution, it seems to be another stage of the evolutionary development of informatization, digitization and robotization. It is about a more massive application of advanced technologies based on the information or a digital revolution into the manufacture and services. That is an economical mix, or, more broadly, knowledge, information, digital and network society. Namely, companies still based on capitalist market fundamentals, where market principles and mechanisms are to solve “green” global and local problems.

Let us sum it all up: 4IR is no groundbreaking revolution that would be unprecedented in the history of industry and humanity, but just the current stage of digital, global and local, transformation. It would be more appropriate to talk about another stage of the information, digital or scientific and technical revolution, rather than a groundbreaking and epoch-making civilization change. Nevertheless, the attractive slogan of 4.0 has become established, it entered people’s minds, and it is living its own life. It is a strategic initiative of the West, a political and marketing project intended for the general lay public, media, and politicians with a propagandistic and psychological role. Rather than a term of strategic modernity, it is a media and academic bubble with purposeful exaggeration of impacts of mass digitization and automation, particularly industrial production. New production possibil-

ities will probably remain restricted to a group of companies from the developed world. 4IR is mostly predicted to have benefits for developed countries (growth of competitiveness, the creation of new production capacities, extinction of some jobs and formation of new ones) and serious threats for other countries (BRICS and South-East Asia) that are predicted to be the major recipients of costs and threats. Technologies i4.0 will have not only winners but also many losers.

Although it is no leap regarding quality, it does not mean that we can ignore the 4.0 phenomenon. Entirely on the contrary, in the Czech Republic, it is a challenge, threat and opportunity. Technology development is ongoing, and it is critical to respond to it. Trends such as Průmysl 4.0 are undoubtedly important, as it is an essential issue for everyone, not only economists and politicians. Especially concerning the nature of the economy, high dependence on the processing industry, or cheap prolonged assembly line of Germany, an assembly shop and warehouse. After all, the crucial objective of initiatives such as Industrie 4.0 or Průmysl 4.0 is the fast transformation of domestic companies to implement digitization and automation technologies in their manufacture and logistics chains while creating a competitive advantage that is hard to imitate. Therefore, the national initiative Průmysl 4.0 can be seen as a set of measures – especially on a general level – responding to the German project and not losing anything from our competitiveness. Having said that, we do not fantasize about an “epochal-making times” or fantastic “revolution of thinking”. However, it is recommended that the Czech Republic (or Slovakia) be strategically oriented towards Industry 5.0 and related technologies

(Staněk, Ivanová, 2016, 2017). That is, not only to capture the current trends of 4.0 in a “cooperating partner” position capable of absorbing and developing new technology (Mařík et al., 2016). Japan, for example, intends to solve its problems with the concept of 5.0 society – the next stage of digitization and deploying AI. A vision using cutting-edge technology (IoT, AI, CPS, Big Data, etc.) is supposed to be the way for a super-smart society. Society 5.0 here represents the fifth stage of society’s development – after hunters, agricultural, industrial and information (Sirůček, 2018b). In turn, Europe is projecting a digital and green vision of Industry 5.0, sustainable, resilient and supposedly people-centred (Breque et al., 2020).

Many predictions rank the Czech Republic (and Slovakia) among countries under the biggest threat due to automation. They argue with a high share of the automotive industry and introducing robots there (Acemoglu, Restrepo, 2016). Thanks to automation and robotics, low wages would no longer have to be a parameter of competitiveness, as it would be, for instance, stable and cheap supplies of power instead. The condition for the success and survival of the Czech Republic is the defence of the nuclear path of energy development. And the fact that the Czech Republic must not allow itself to be forced into other “pinwheels and parasols” and similar gigantic tunnels (such as green diesel, solar energy, etc.). It is also necessary to think soberly about the conversion of coal-fired power plants to gas. We need climate realism instead of climate alarmism. The so-called European green fate pushed by liberal progressives is not a chance for the Czech Republic to become a technological leader. On the contrary, another calvary for even greater dependence, lagging and poverty.

For the Czech Republic to win its good position, it is essential to have a bold vision, well-thought-out policy and de-tabooing the category of planning, for instance, in the spirit of the concept of development poles. It is necessary to take into account strategic considerations about the (un)sustainability of the neo-colonial model of the economy or the image of “a cheap country producing cheap spare parts”. The crucial spheres include education; however, its level is on the continual decrease. Progressive modernization efforts and disproportionate liberalization are the primary cause of its devastation. It should never be overlooked that school and education are here for children and young people, not for the needs of Industry 4.0 or others. The goal should be the overall development of the personality, not the readiness of employees for exploitation in conditions of permanent uncertainties and according to the current whims of the markets. Even in this sphere, the interdisciplinary legacy of R. Richta, recalled below (Richta et al., 1966), remains inspiring. Czech national interests in the context of the pandemic are considered by (Šulc, 2020).

On 3 February 2019, the Innovation Strategy of the Czech Republic for the period 2019-30 was adopted. These are measures such as support for digitization, changes in tax deductions to support research and development, support for a patent policy, growth in spending on science and research, development of start-ups and spin-off companies, with a focus on the future. Instead of the slogan “Land of Stories” (the land of monuments, beer and crystal), the motto “Czech Republic: The Country for the Future” (technological leader) was set. At the same time, the urgency of strategic discussions on visions and

projects 5.0 or 6.0 is growing, where the Czech Republic could in some respects be at the forefront and fatally accept trends and actively co-create them. It is necessary to find an industrial activity where the “golden Czech hands and golden Czech heads” could excel. The space industry, super strategic raw materials, nanotechnology, biotechnology for health 4.0, 5.0...?

5 The magic of fifth (or sixth and seventh) K-wave

Furthermore, we operate with the innovation mechanism of long Kondratieff waves, particularly with K-waves of the “Kondratieff-Schumpeter” type by N. D. Kondratieff (Sirůček, 2016a,d) and J. A. Schumpeter (Sirůček, 2005, 2016a,c); with significant follower F. Valenta (Sirůček, 2005, 2016a). The basis of the cyclical development is the unequal distribution of innovations (in the case of long waves of top-order innovations) and their tendency to occur in clusters. The history of studying long waves, their interpretations, the current state of knowledge and open problems in theory and practice are summed up by (Sirůček, 2016a,b).

The innovation logics of K-waves leads to the following sequence of IRs: 1IR (core 1760-1830), 2IR (also technical and scientific revolution, core 1873-WWI), 3IR (also a scientific and technical revolution in a narrower sense, from WWII until present). However, with various stages, that may be interpreted differently. Industrial (or technological, sometimes also scientific and technical in a narrower sense) revolutions that can be identified have been three so far. 1IR started with the use of the steam engine in the textile industry (approx. 1770-1815) and later in railroad and ship transport and so on (1830-70 is the “age of

railroads”). It started in England and diffused to other countries. 2IR followed it with the application of electricity, combustion engine, “great” chemistry, and telegraph 1873-WWII. Subsequently, 3IR (scientific and technical revolution) started by WWII with the first “atomic” stage distinguished by atomic energy, electronics, synthetic chemistry, astronautics (1940s-1970s). The second, “information” stage, is linked with microelectronics, telecommunications and later with the Internet and biotechnologies (from 1970s-1980s). I4.0 or 4IR (approx. from 2010) may represent another stage: the stage of “mass digitization” or “cyberization”.

This is in line with the sequence of long K-waves of innovation in industrial history. Modern industrial society started with a boom of 1IR in England. It became the material base of the first K-wave (1780/90-1844/51), consisting of the stage of long expansion (1780/90-1810/17 (upper turning point)) and long depression (1810/17-1844/51). The second K-wave is dated 1844/51-1880/96, and the long expansion between 1844/51-1870/75-76 (with upper turning point) lied in development of railroads, metallurgy and machinery. The third K-wave occurred in 1880/96-1939/45. Long expansion in 1880/96-1914 (with a turning point in 1914-17) used new forms that emerged in the previous depression, and it is based on the development of 2IR. The fourth K-wave appeared in the turbulence of WWII, and 3IR carried it. Its dating is not unified: 1939/45-formerly 2000 (and even before). The second expansion lasted from 1939/45 to 1965/70. The 1965/70 (upper turning point) period started the long depression of the fourth K-wave. However, what is next? The predicted initially fifth K-wave with

a turning point in 2020/30 is very questionable.

Valenta’s theoretical reasonings are based on the assumption of a natural cyclic order for the company or economy. This is in the spirit of Schumpeter’s innovative approach, for which innovation has become the basis for exploring the economic dynamics of periodically repeating cycles. It combines cyclical fluctuations in uneven distribution of innovation over time, which are realized cumulatively. They occur in waves - clusters, where the cluster leads to a boom, the depletion of the potential wave of innovation of a certain order is associated with recession. Valenta demonstrates that the innovation of individual orders usually alternates with regular time intervals. This is also reflected in business cycles of different lengths. (Valenta, 2001) operates on Kitchin, Juglar (J-waves), Wardwell (W-waves), and Kondratev (K-waves) cycles. It tries to show that one K-wave (about 50 years) contains two W-waves, one W-wave (22-25 years), three J-waves (about 9-11 years) and one J-wave three cycles of Kitchin (about three years). Long K-waves are triggered by radical innovations as new industries and industries are emerging.

Many agree on four long-term cycles, resp. long waves until about the second half of the 20th Century. We should point out that dating is approximate and concerns the most developed country or countries and that turning points of long waves form the historical scenery for epoch-making monetary, revolutionary, and other events (Sirůček, 2016a). Moreover, also the fact that in this text, we speak of long waves of primarily economic development. Concerning the end of the fourth K-wave and subsequent waves, the approaches differ much more considerably. Many authors

work with the fourth IR, the information revolution, which they link to the fifth K-wave (with different dating concerning its onset in the 1960s-1990s), including links to the NE concept of the 1990s. There are also models of other waves.

L. A. Nefiodow (Nefiodow, Nefiodow; 2015) claims there are the following K-cycle: 1st (1780 to 1830-50, steam machine, textile, industry, clothes), 2nd (1830-50 to 1870-90, railroad, steel, public transport), 3rd (1870-90 to 1920-35, electrotechnology, chemical industry, mass consumption), 4th (1920-35 to 1950-80, automobiles, petrochemistry, individual mobility), 5th (1950-80 to 2000-05, ICT), 6. (from 2000-05, biotechnology, psychosocial health, holistic medicine). The fifth K-cycle is considered to have ended by the crisis in 2000-03 when a new cycle started. The carrier is supposed to be holistic health, including physical, mental, social, environmental and spiritual aspects. The basic innovations are psychosocial health and biotechnologies. L. E. Grinin (Grinin, Grinin, 2014) date sixth K-wave between 2020-30 and 2050-60 and link it with MBNRIC (med-bio-nano-robo-info-cognitive) technologies. They accentuate healthcare services and fully scientific cybernetics. What is supposed to be crucial in fifth K-wave (1980-2020) is microelectronics, personal computers, highly qualified services and beginnings of scientific cybernetics. The cybernetic revolution of the sixth K-wave could partly correspond with technologies 4.0.

Another favourite and somewhat popular hypothesis concerns the shortening of the long waves in the 20th and 21st Century. By contrast, some other interpretations warn about a prolonged rundown of the fourth K-wave and considerable complications with

the start of the fifth K-wave, at least on the global scale (Dobrylovský, 2019). In the 1990s, the expected beginning of new ones, especially ICT, did not occur and the NE bubble burst. The beginning could have been delayed intentionally as developed countries may prolong the relevant stage (by increasing indebtedness, financialization, militarisation) and “buy time” (Švihlíková, 2010). Even in connection with incorporating new countries and markets after the fall of the Eastern Bloc. Slow onset V. K-waves may be related to increasing the space in which interdependent economic processes underway. Another explanation for the delay points to the nature of the activities that are to become the drivers of the new global expansion. For these, the capitalist constraints may already be narrow. The role may be played by the fact that in some spheres (space industry) more and more important place is occupied by private companies and state agencies are leaving positions. At the end of the first decade of the 21st Century, the first Great Recession came unexpectedly (Švihlíková, 2014). Could it have worked as a “cleaner” preparing the historical field to apply new technologies fully? So I4.0 technology as the long-awaited fifth long-wave?

If we combine the start of the 5th long K-wave with the events of the Great Recession, it must be remembered that many Asian countries have recovered better than the lagging West. So, it's not the “magic” the fifth (or another) long K-wave, in the end, the Chinese wave, respectively Asian? More precisely, with centres in Asia? As a matter primarily European, the whole concept of 4 IR would logically represent an attempt to reverse unfavourable trends and prevent further declines in Western Europe. A new era of

globalization is beginning. Is Europe, America or Asia better prepared for it? (Džbánková, Sirůček, 2018). Let us add that most of the reflections on the future look like if companies around the world were completely homogeneous. And it usually does not consider the specifics of individual civilizational as well as national models. This also applies to “4.0 considerations”. (Staněk, Ivanová, 2016) repeatedly emphasize that the rate of utilization of potential pros of 4IRs depends on the parameters of the societies and the historical values of the individual civilization circuits. In this context, it is possible to discuss the advantages and limitations of the Euro-American models in comparison, especially with the Asian ones. Including possible inspirations and the non-transferability of, for example, the Chinese experience in a completely different European environment.

Another scenario warns that the world is still dangerously wobbling in the transition phase, respectively, in chaotic intermediate phases associated with the end of the fourth K-wave. The current turbulences may be related to the formation crisis of the rundown of the fourth K-wave. The previous formation crises (1848, 1896, 1939-45) had their prologues. The prologue of the previous formation crisis linked with WWII was the Great Crisis, and the war was its breaking point and climax at the same time. The beginnings of the current formation crisis and its prologue or prologues are linked to events from 1989, 1991, 1998, 1999, 2001, 2003 and 2008 or even later ones. What is more likely are years that start with number two, since the West profited from dismantling the socialist system in Eastern Europe and postponed the crisis's onset. However, the current formation crisis may be longer and

more complicated. The development of technologies is creating conditions for concluding the entire industrial history, and “post-industrial” long K-waves may be modified. Therefore, it is unclear what cataclysm the breaking point or climax of the formation crisis will be linked to.

The situation is complicated by the fact that different parts of the world find themselves in different stages of long-term technological, economic and social-economic cycle as these may significantly differ in the current conditions. A role may be played by concurrence – if it occurs – of economic cycles of various lengths (for instance, J-waves, W-waves and K-waves at the end of the first decade of the 21st Century in the sense of the “perfect storm”). Last but not least, attention is drawn to the fact that new technologies may bring about such fundamental changes that the current global system might become unsustainable. So that technology of the fifth and subsequent K-waves could fully develop, they might need different conditions and other “rules of the game”. We may add that the upper turning points of long K-waves can be linked again with the opening crisis (1810 1871, 1917 or 1968), establishing new historical questions and historical tasks, including social organization changes (Sirůček, 2016a).

The crisis of the covid age, which can also act as a “cleanser” of the historical terrain for the full application of new technologies, cannot be neglected. It can also play the role of restarting the next cycle(s). In comparison with the Great Recession of the end of the first decade of the 21st Century, the current crisis should not have economic causes and should be an exogenous phenomenon. Therefore, it is not supposed to be a product of financial imbalances in the sense of the triggers of reces-

sions since about the 1980s. Another feature is the complexity of the development due to a number of unforeseeable factors of a non-economic nature. It is also intended to be a truly global crisis (Borio, 2020). The economic impacts are often cited as the collapse of the health sector, the collapse of internal and external trade, problems in finance, consumption and virtually all spheres of economic life. The pandemic was expected to cause several phases of shocks in the world economy - recession in trade in products and services, slumps in financial markets, GDP shocks with impacts on investment, etc. Last but not least, the immediate and robust response of fiscal and monetary policymakers around the world is cited as a feature of the atypicality of a covid age crisis. However, the overly optimistic forecasts for 2021 are tempered by depressing statistics and an emphasis on rising debt burdens, including (and perhaps far beyond) the perceived imminence of a debt crisis. The role of central banks was about to change and, although it was not publicly acknowledged, they were about to lose their independence. This, according to some, will inevitably lead to inflation and make it more difficult to contain. The strict separation of the crisis from financial and economic contradictions also remains debatable. Nor can it ever be forgotten that the crisis is not over. Perhaps quite the contrary.

The theory of long K-waves does not lead to unambiguous conclusions, and it is linked with many open problems, while it opens at least space for critical considerations. However, in light of the chaotic development of the 21st Century, other approaches, including the entire traditional economic theories, will probably not be so successful. Nobody foresaw the Great Recession, but the mainstream cannot

explain it adequately, not even retrospectively. Especially in the case of macro-economy, a highly formalized science, its hopeless predictive inability is striking, not only when it comes to the prediction of crises. There is no consensus, which does not only concern crises: it also concerns the concepts and visions of 4IR. A real new economy (practice) and new economics (theory) are still awaited.

6 Civilization once again at a crossroads

Even when researching 4.0 (or 5.0) processes, it is possible to find Czech inspirations. The still under appreciated reference of, for example, the already cited F. Valenta, another economist M. Toms, and especially the message of the interdisciplinary sociologist and philosopher R. Richta should not be left out. The work *Civilization at the Crossroad* (Richta et al., 1966), which in many ways was ahead of time (also was referred to as “Capital of the 20th Century”), is the most translated Czech book ever. His efforts focused on the scientific and technological revolution (STR) and its social and human context. Richta’s work is permeated through humanist ideals (Sirůček, 2019a). *Civilization at the crossroad* suggests how to achieve general transformation and progress in society in terms of self-realization of man as a self-purpose. The universal development of man should be the foundation and the goal of the development of productive forces.

Richta innovatively conceives the Marxist concept of STR, complex and unique in its time. It contrasts the STR and the industrial revolution and illustrates the differences. It completes the qualitative analysis with quantitative indicators. *Civilization at the crossroad* brings groundbreaking ideas. What is meant by “crossroad”? The crossroad concerned the possibility of

further ensuring the development of productive forces in a harmonious way, including the development of the most important component - man, his abilities and his mental life. As early as the 1960s, Richta warned that economic difficulties, disproportions, and the impossibility of other industrialization processes signaled the presence of the “nodal line” of modern civilization. Beyond this line, the further development of productive forces is not manageable by the existing methods but only by the transition to STR. The warning about the danger of ignoring development trends remains inspiring. Also, finding the right direction at a civilization “crossroad” requires systemic changes. For these, however, it is necessary to change people and the relationships between them. According to Richta (but also Marx), man will change if he uses his free time for his development (Jurásek et al., 2016).

(Heller, Neužil et al., 2011) or (Ransdorf, 1996) emphasize that Richta prophetically affects the deep nature of the systemic problems of so-called real socialism, resp. proto-socialism. Fundamental problems that later result in its collapse, disintegration and dismantling. According to Richta, capitalism can only be overcome on the “ground of production progress”. Which so-called real socialism failed to do - for both subjective and objective reasons. Richta’s warnings are also relevant today, in the face of 4.0 technologies, for which the capitalist framework may already be too narrow. Today, however, unlike in Richta’s time, there is no counter-pressure from the world socialist community, except specific China.

There are other interpretations of the civilizational “crossroads”. Richta’s studies are intended to be a socialist reflection of a deep and multidimensional crisis, including an exist-

tential crisis, into which the whole of industrial civilization was to be entangled (Dinuš et al., 2019). The crisis is manifested by the civilization leaven of the 1960s, in both the East and the West. Many intellectuals and experts in various scientific disciplines in the 1960s are looking for ways to solve the crisis and portray the ideas and visions of an ideal society of the post-industrial, etc., type.

The work of Richta and his team can be described as the forerunner of, for example, the Rome Club and its warning forecasts (Sirůček, Džbánková, 2019). Including Richta’s ideas of “optimizing growth” in the spirit of time economics. Richta remains an important precursor of the theory of global problems and, in a Marxist spirit, analyzes the position of man in STR processes. One of the key inspirations is the emphasis on the spheres of science and research, which are now regarded by the standard economy as a key source of economic growth. Hence the emphasis on education and the role of the human factor, and therefore the importance of investing in this direction. Richta is one of the first theorists to emphasize that knowledge and the all-around development of man becomes an economic factor. In this sense, already in the 1960s, it outlined the basic features of the so-called knowledge society. Clear inspirations Richta’s references can be found, for example, in the economics of productive consumption, responding to the contemporary expansion of services associated with the acquisition, preservation and application of human capital (Valenčík, Wawrosz, 2019), in the study of productive and non-productive aspects of consumption (Valenčík et al., 2014), resp. in attempts to solve the neoclassical dichotomy “consumer -

producer” based on the theory of productive consumption and the theory of economic communication (Sazanova et al., 2020). That is also related to discussions of the economic paradigm for the 21st Century in the context of socio-economic and political reflections on global and post-global society (Jurásek et al., 2016).

R. Richta’s work brings many critical stimuli to discussions about economics and society 4.0 or 5.0. One of the most important is that scientific research into the processes of industrial or technological upheavals or revolutions should reflect their complexity. Including social and human contexts. Whereas, knowledge of various scientific disciplines and disciplines must be used. R. Richta’s inspiration and contribution lies not only in the topics he dealt with, but also in the unprecedentedly strong dialogue between the various disciplines. And an effort to rethink science, its new horizons and its direct relationship to social development.

At least partially fulfilling the legacy of R. Richta could contribute to the recognition that our civilization is indeed at a fatal “crossroad“. The dictatorship of political (hyper) correctness, however, strictly rejects any crossroads of civilization. It forces everyone to swear to the “end of history“, the only correct progressive truth in the spirit of so-called liberal democracy (Klaus et al., 2020).

Conclusion

In 2020 has come the Corona crisis, and the further fate of the “4.0 bubble” remains open. Through liberal progressives, globalizers interpret the crisis as a stepping stone to even more massive digitization, which no longer serves the people and becomes self-serving. And also to launch gigantic so-called green

projects such as European carbon neutrality or the American “green deal”.

Kovid’s global panic can be interpreted as the collapse of neoliberal globalization live (Sušová-Salminen, Švihlíková, 2020), but globalism had already destroyed the resilience of economies (and entire societies) before the pandemic. The new “normal” according to liberal hyperglobalists, is to become the Great Reset (Schwab, Malleret, 2020) - a new coat of the old globalist agenda.

The pandemic is meant to enable the pushing of the green agenda (as the completion of the green stage of the “4.0 bubble” that was on the verge of bursting), the cultural revolution, basic unconditional income, and cash elimination. In doing so, K. Schwab pronounced a definitive verdict on nation states, with the covid intended to reinforce the inability of their governments to grapple with the problems of their societies and economies. The pandemic is supposed to provide an ‘open window’ for the destruction of the old world, where the spread of globalization and democracy has no place for nation states. Decisions are to be taken by unelected experts, and not just in the medical sphere, backed by ‘global corporations with social responsibility’. The functions of states are to be taken over by multinationals, which will be portrayed in the media as environmentally stable, sustainable, humane and responsible, economically prosperous, and knowing best how to manage the assets entrusted to them. One of the leading ideologues of 4IR, K. Schwab, dusts off the concept of reforming capitalism from within (Schwab, Kroos, 1971), whereby “shareholder capitalism” (profit-oriented) is to be adapted to “stakeholder capitalism” (stakeholder capitalism) through the pursuit of social and envi-

ronmental goals. The concept of “stakeholder capitalism” was updated in 2019 and thereafter as part of the coronacrisis. Pope Francis has joined the global alliance of the Great Reset, alongside the Davos “managers of humanity”, with the Inclusive Capitalism initiative. As yet another of dozens of variations on the theme of the so-called transformation of capitalism. The word inclusive has become another buzzword. “Inclusive” (and “smart” and “clean”) is also supposed to be growth, according to WEF projects (The Global Risks Report 2021).

However, others see the global Corona crisis primarily as a warning. And also, as an opportunity – perhaps the last – to return to normalcy. To a normal life, a normal job, a normal economy and a normal society. Including the cessation of dystopian so-called green plans. They call for the promotion of new, post-global and post-liberal, natural tendencies towards regional and local balance, economic self-sufficiency of national states, real democracy and independence, and mutually beneficial cooperation.

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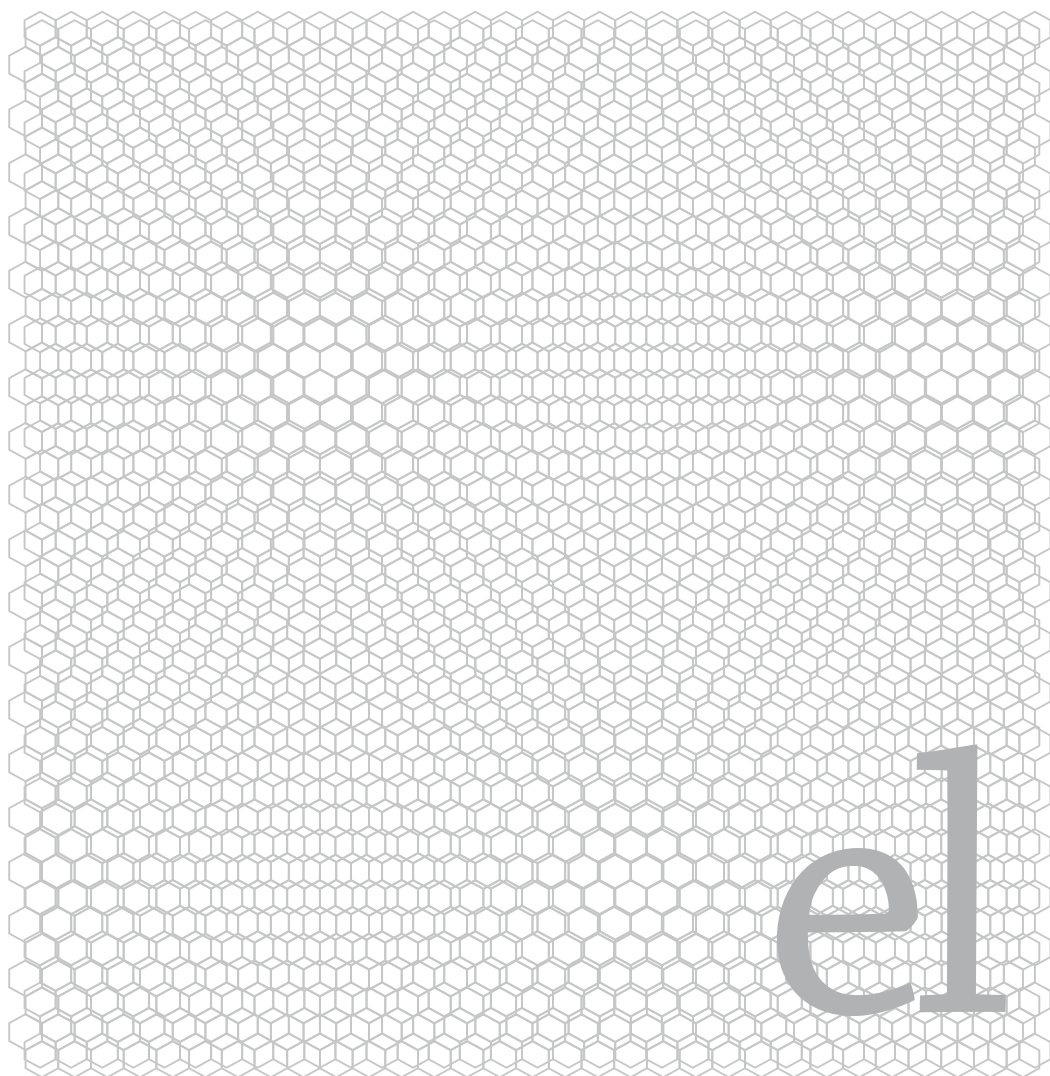
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