



# Functional Disability

## An interesting product for Singapore?

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Introduction

Essential Abilities

Organ Concept

Cancer

Market Development



## **BERUFSUNFÄHIGKEITSVERSICHERUNG (BU)**

... stands for the typical product in the German DI market.  
"Occupational Disability Insurance"

### **Benefit**

Regular income  
Up to retirement age  
Recovery possible

Meets insured's needs  
Consumer protection strongly  
suggests BU

### **Benefit trigger:**

Own occupation  
50% disability to perform current job  
lasting for the foreseeable future

Covers any cause of disability  
Claims assessment has medical  
and occupational component

### **Premiums**

Typically level premium  
Differentiated by occupational classes

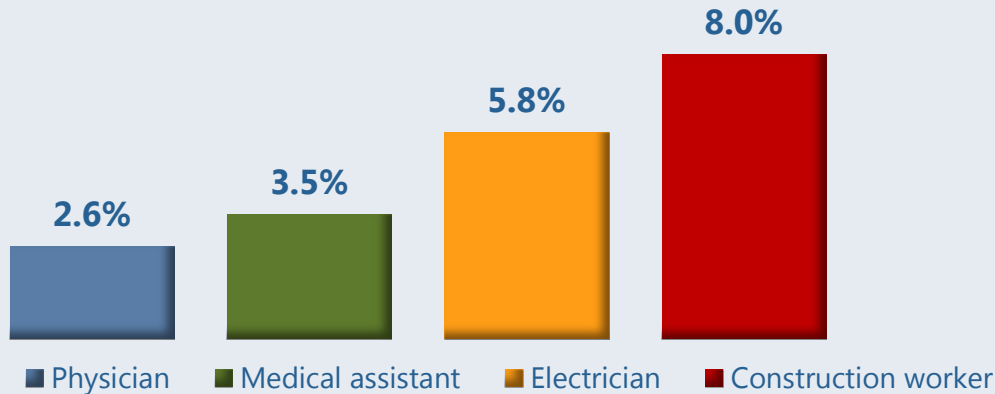
Competition and increasing  
experience led to ever stronger  
differentiation by occupation

# A success story – but not for everybody



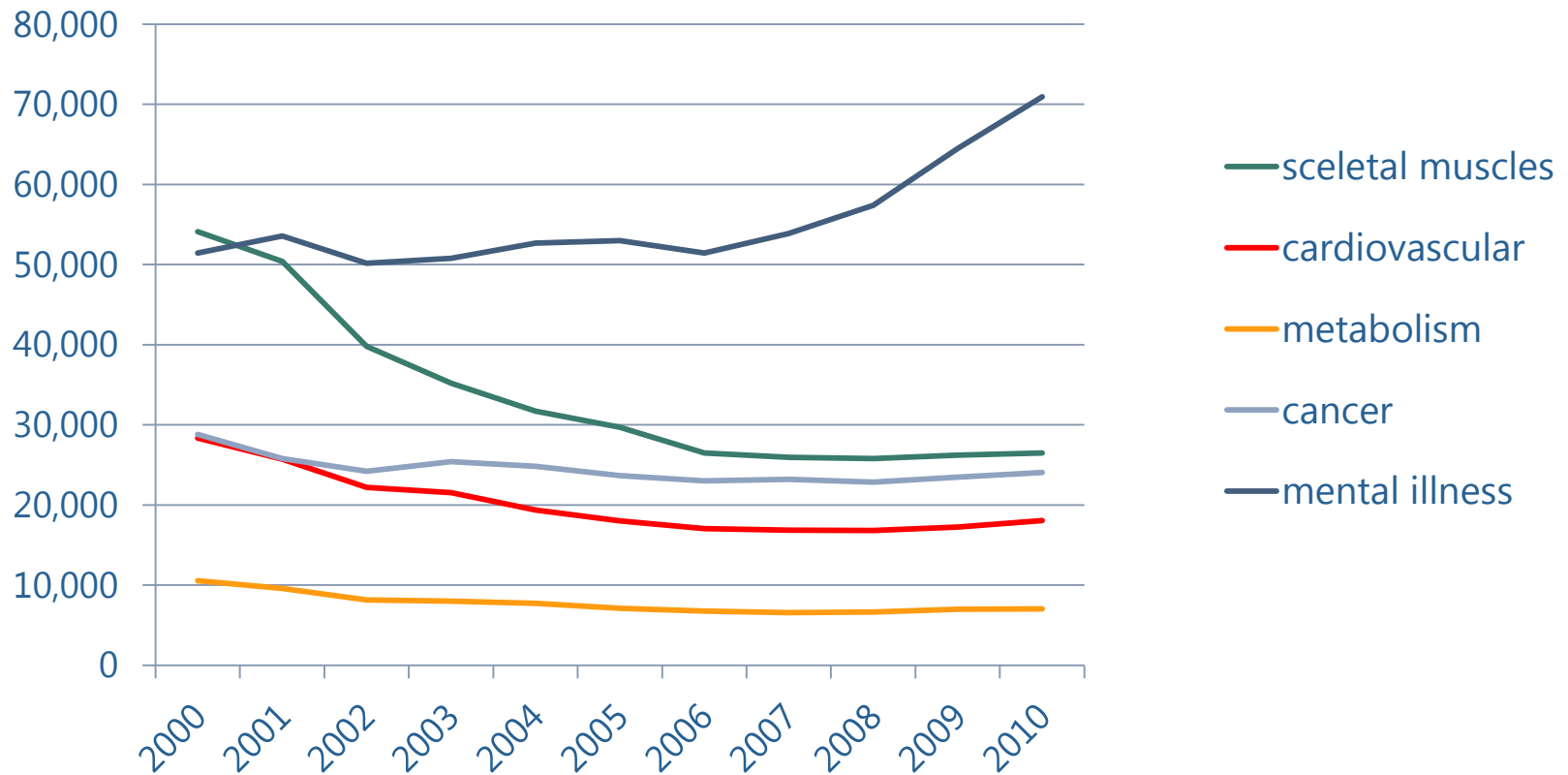
- Around 25% to 33% of all employed own a “BU” cover
- Protection gets very expensive for more risk occupations

Premium in % of gross income if 50% of gross income are covered, end age 67



➔ “BU”-saturation much higher in white collar occupations than in blue collar occupations

# German social security system – strong increase in disability due to mental illnesses



source: Report of Deutsche Rentenversicherung

- Increase in mental illnesses is a threat to „BU“-profitability
- People with preexisting conditions have difficulties to get covered



- High end product with a generous benefit trigger
- Monthly benefits reflect the income loss better than a lump sum payment
- Very successful for white collar occupations
- Too expensive for blue collar workers
- Increasing costs for mental claims are an issue
- Generally complex claims management with subjective component

How can we provide affordable disability insurance for everyone?

- ➔ Concentration on severe functional limitation
- ➔ No direct link to the occupation
- ➔ No benefits for mental diseases and back problems
  
- ➔ This more basic solution can also be attractive to markets without a strong disability market!

# Functional Disability – built on several pillars



## Typical Product Design

Accident	Organ Failure	Cancer	Essential Abilities	Long Term Care
<ul style="list-style-type: none"><li>• 50% disability according to dismemberment schedule</li></ul>	<ul style="list-style-type: none"><li>• Heart</li><li>• Lung</li><li>• Kidney</li><li>• Liver</li><li>• Central Nervous System</li><li>• (Mental)</li></ul>	<ul style="list-style-type: none"><li>• Stage II or higher</li></ul>	<ul style="list-style-type: none"><li>• Sight</li><li>• Speech</li><li>• Hearing</li><li>• (Orientation)</li><li>• Abilities of hands / arms</li><li>• Abilities of legs</li><li>• Driving</li><li>• ...</li></ul>	<ul style="list-style-type: none"><li>• Benefit trigger according to public scheme</li></ul>

- No direct link to occupation
- Any benefit trigger leads to an annuity payment
  - As long as condition persists
  - Until end of payment period (pension age or whole of life)
  - Exception: Cancer payment period is limited – typically 12 to 60 months, depending on cancer stage
- Additional benefits are possible (e.g. limited lump sum in case of CI)



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# Essential Abilities covered in the German market



## Company A – Failure 1/4 or 3/11

Sight	Speech	Hearing	Orientation	Sitting
Use of both hands	Walking	Moving both arms	Kneeling and bending	Driving
Lifting and carrying	Climbing stairs	Standing	Standing up	Bowing

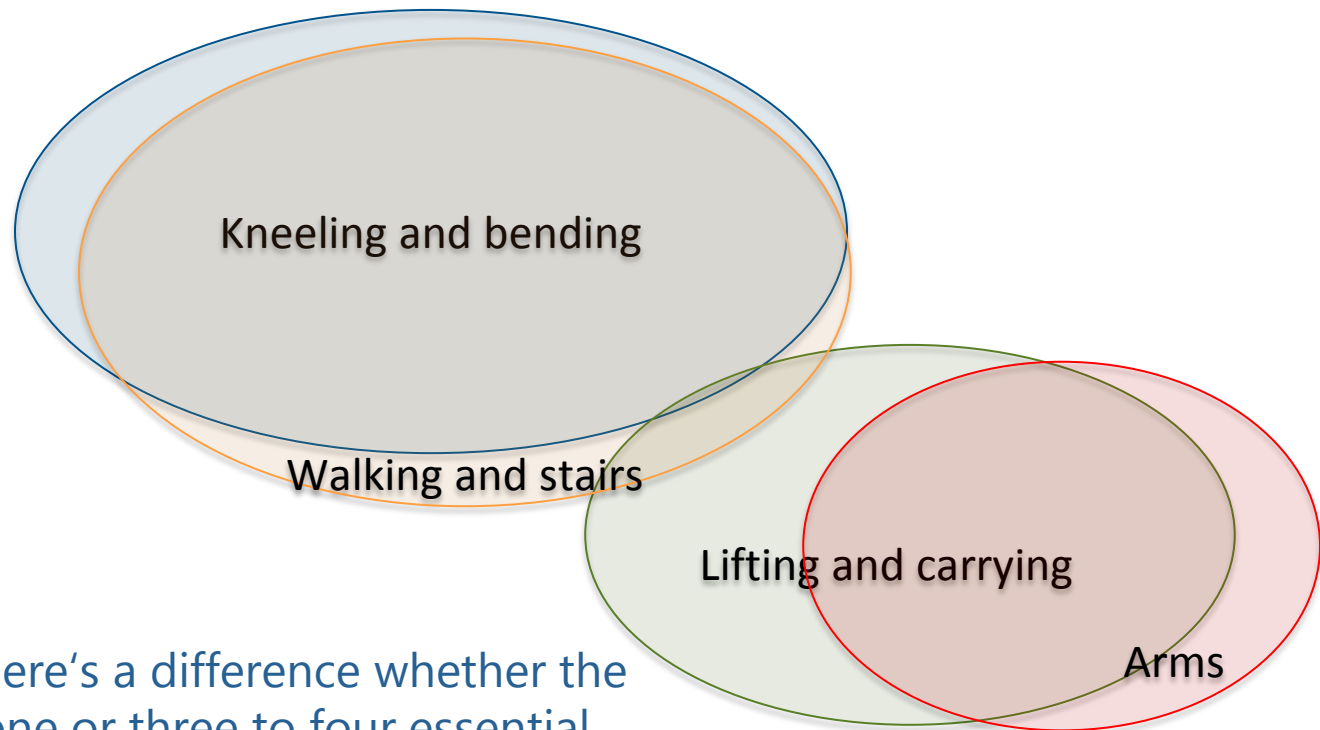
## Company B – Failure 1/10

Sight	Speech	Hearing	Cognitive Function	Balance
Use of one hand	Walking/ Climbing Stairs	Use of one arm	Kneeling/ Bending	Driving

# Dependencies between the essential abilities



- Dependencies between the various essential abilities
  - Almost all of those who cannot walk, cannot kneel and bend down either
  - Some of those who cannot walk, cannot lift and carry either
  - ...



- Obviously, there's a difference whether the loss of only one or three to four essential abilities is required in the product



- For every essential ability the following is necessary:
  - **Illness, injury or declining health** that lead to measurable physical changes and hence be available for objective assessment
  - Exclusion of mental health problems
  - Confirmation of the loss of the ability by a **medical specialist**
  - Loss of the ability shall be **permanent**
    - e.g. "12 months", "irreversible and not treatable"
  - Use of **assistive devices**
    - Our advice: Explicit inclusion of the assistive devices into the EA-definitions

# Essential Abilities Definition - Examples



Essential Ability	Definition
Sight	Visual acuity in either eye is measured at 3/60 or worse using a Snellen eye chart or visual field does not exceed 15 degrees distance from the centre
Use of one hand	Inability to open and close a water tap with left or right hand
Sitting	Inability to sit uninterruptedly for 20 minutes, even when changing the sitting position or supporting themselves on arm rests.



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Essential Abilities

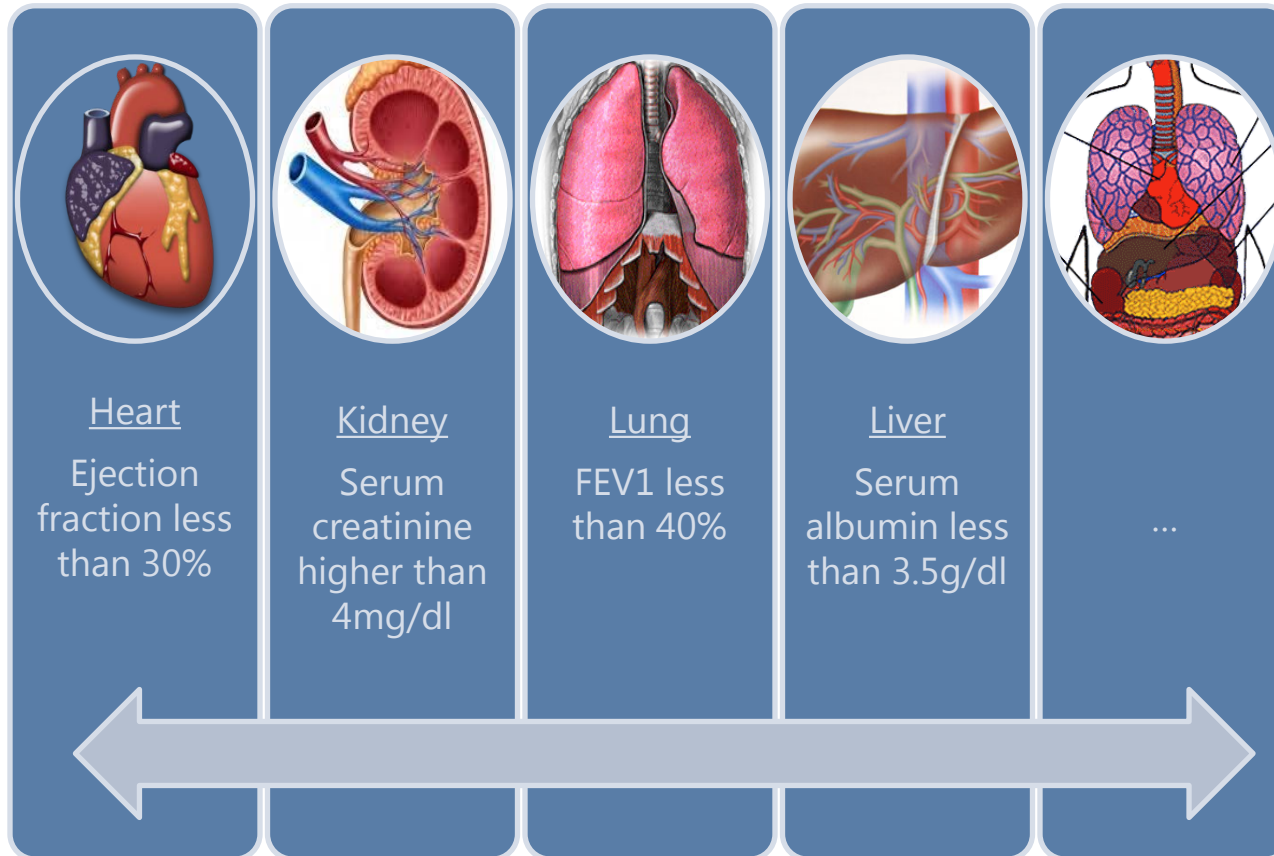
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An annuity benefit is paid if the organ function is significantly reduced:



The condition needs to be irreversible. Improvements beyond what is described above should not be possible even with medication.

# Organ Concept – Case Study



- Ms. P – aged 47
- Collapsed with chest pain at home
- When ambulance arrived – no cardiac output and ECG showing ventricular fibrillation
- Three shocks required to get her back into a perfusing rhythm
- Small Troponin rise indicating myocardial damage
- Suffered from **viral myocarditis** causing significant damage to her myocardium – requiring implantation of an implantable cardioverter defibrillator



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"In effect the outcome is very similar to as if Ms P. had had a MI in that a **significant portion of the heart muscle has been damaged and it has left her with a weak heart**"



"I have to say that there are very few critical illnesses which are more critical than what Ms P has experienced, but I'm afraid **it is not a heart attack in the sense of your description**"



# A more appropriate benefit trigger?



## Heart Attack and Other Heart Diseases

### Definition

Impairment of the functionality can be attributed to diseases such as:

- myocardial infarction
- valvular heart disease
- inflammation of the heart muscle
- heart rhythm problems that have led to a significant reduction of the pumping capacity of the heart

**An impairment of the functionality is existent if the ejection fraction of the heart is less than or equal to 30%.**

The state has to be irreversible and also not improvable by the intake of medication.

If the functionality is improved by transplantation, benefits are still paid.

# Organ concept – further example



## Kidney Diseases

### Definition

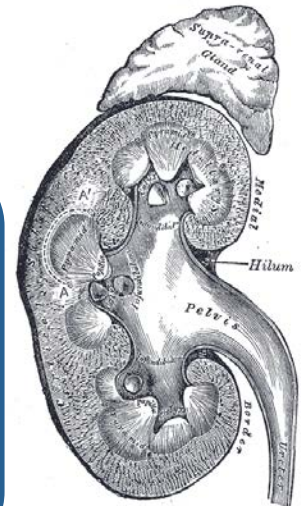
Included are all kidney diseases, e. g. as a result of immune disorders, chronic inflammation, injuries, vascular sclerosis, diabetes or hypertension. The benefit is paid if the impairment of the functionality is permanent and irreversible such that

- the glomerular filtration rate is lower than 40ml/min/1.73 qm body surface area or
- the creatinine clearance is lower than 30ml/min/1.73 qm body surface area or
- the creatinine value is higher than 4mg/dl.

### A Simpler Solution:

**Kidney Failure:** Chronic irreversible failure of both kidneys requiring either permanent renal dialysis or kidney transplantation.

Source: LIA CI Framework 2014





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# Why does cancer have so much weight?



- Cancer incidence rates for all stages combined comparably high
  - Even stage II cancer covers most cancer cases
  - Progression of disease needs to be taken into account
- Depends on severity level covered –
  - Organ failure requirements are quite strict
  - Even severe heart attacks will often have an ejection fraction above 30%

# Annuity benefit: limited payment in case of cancer

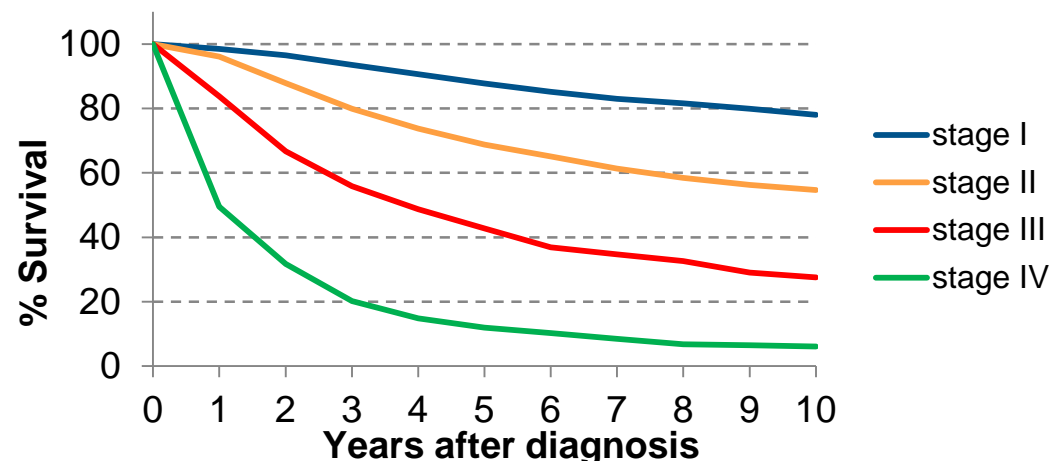


- Annuity benefit for PA, LTC, EA and organ concept: until retirement age
- Claims duration for cancer has a huge impact on pricing
- Expected mortality improvements for cancer patients not negligible
- Insurable interest: long-term survival after early phase less affected

## Tiered annuity benefits

stage I	-
stage II	12 months
stage III	36 months
stage IV	60 months or until retirement age

Rate of survival: breast cancer by tumour stage





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# Functional disability in Germany – successes and challenges



- Little or no premium split by occupational class
  - 70% - 80% premium reduction possible for high risk occupations like professional drivers
  - Covers significantly more cases than a pure ADL protection
- Hardly any risk due to mental claims
- Insurability extend with less restrictive underwriting
- Easier claims assessment
  
- Some early products have been under-priced
- Basic cover – are the limitations well understood by policy holders?
- Long term experience on claims duration is still missing
  - Limited duration of payments would be a safer alternative



- Functional Disability is successful for the German market
- And for Singapore:
  - Need for income protection exists as well
  - Market not yet saturated
  - CI concept is well known in the market
  - Different perspective: Rather an extension of a basic TPD than reduction of existing disability cover
- What are your thoughts – please discuss!



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## Thank you!

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